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MONTANA PUBLIC INVESTMENT PLAN

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MONTANA

STATE PUBLIC INVESTMENT PLAN

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June, 1976

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ACKNOWLEDGEMENTS

Special recognition is extended to the following individuals for their cooperation and assistance in preparing this report: Michael G. Billings, Patrick Melby, Jon Krutar and Dick Hulme of the Governor's Office of Budget and Program Planning; and Dick Draper, Tom Dundas, Jerry Fleming, Bruce Finnie and George Cole of the Department of Community Affairs.

Special recognition is also extended to Bette Moe and Nancy Keil of the Department of Community Affairs for typing the final draft of the report.

I

GOVERNOR'S POLICY INITIATIVES

The purpose of the Governor's Policy Initiatives is to express the policy concerns of the Judge Administration as they pertain to current and future directions of state government activities. They are also intended to form a basis upon which agencies will be expected to build multi-year plans and subsequent 1977-79 budget requests. More specifically, they are intended to be general yet definitive expressions of policy. They should suggest direction but not necessarily mandate specific program activity. Program managers should be able to interpret the policy, assess the problems addressed in a more in-depth manner, and design program approaches which will solve the problems. In fact, they probably will be able to develop several alternative solutions. The solutions should, in any case, be identified as such in the planning and budget documents as they are prepared in 1976.

The Policy Initiatives will not be finalized until mid-summer, after agency directors and other interested citizens have been given further opportunities to comment. The Montana Futures survey will be utilized as a cross-check to compare citizen concerns with those of the Judge Administration.

GENERAL GOVERNMENT

Like most other parts of the nation, state and local government in Montana has experienced a significant growth in the rate of expenditures during the past several years -- partially in response to expressed needs of its citizens for new and expanded services, partly as a result of new programs mandated by the Federal government, and partly in response to a desire for a general improvement in the manner in which public resources are managed. It is pointless to argue whether such growth is good or bad; what is needed instead is an intensive effort on the part of the executive branch, the Legislature, and the general public to ascertain whether Montana's public resources are being utilized efficiently and whether the services paid for by these resources are adequately achieving their purposes.

Such an effort has in fact been underway, particularly since 1973, but to date results have been mixed. The primary emphasis, therefore, in preparing and analyzing the 1977-79 executive budget must be placed on answering these questions: to what degree is state government efficiently utilizing our tax dollars? What level of effectiveness is being realized in the process of delivering state services to the target recipients? Based upon the answers to these questions, the paramount issue which must be addressed by all planning and budgeting efforts is how efficiency can be increased (thereby resulting in reduced expenditure levels) while at the same time maintaining an optimal level of service effectiveness.

As a part of this process, department personnel should not hesitate to ask whether a particular program or service is appropriate to state government. Indeed, such a question should be continuously posed during the forthcoming Executive Planning Process as well as during the preparation of the executive budget.

While the program planning and budgeting system currently being designed (and of which these policy initiatives are an integral part) will greatly facilitate such an assessment process, there are several specific items that state agencies should pay particular attention to.

Growth in State Government Employment

The cost of government in general, and of personnel services in particular, has always been a justifiably important concern of elected officials and the public alike. Since 85 percent of Montana State government expenditures are currently allotted for personnel services, any serious efforts directed at reducing the growth of state costs must inevitably deal with this issue. It should be emphasized that any efforts to trim the size of the bureaucracy must start with an examination of the validity and effectiveness of the programs involved. Employees are, in a real sense, resources which contribute to the accomplishment of an agency's mission; whether that mission can still be accomplished with fewer staff members is a question which must receive careful scrutiny before any decisions are made to reduce personnel.

During the 1960's, state government employment increased at an average of 4.6 percent per year, compared to an average growth of only 0.6 percent per year in Montana's private sector employment. Between 1970 and 1974, this relationship was reversed. State government employ-

ment increased at a rate of only 1.7 percent per year, compared to 3.7 percent per year increase in private sector employment. (This turnaround may not be as significant as it might appear. First of all, the 1970-74 period includes some extraordinary growth in Montana's economy and such a high rate of gain in private employment can probably not be expected to continue. Secondly, the rate of growth in state employment seems to be understated by Employment Security Division gross employment counts of persons on the state payroll; this is mainly due to changes in part-time employment practices. Budget office data on state government full-time equivalent (FTE) employees indicates an annual growth rate slightly greater than the above figures.)

In order to achieve the objectives of reducing the increase in cost of government and achieving a proper balance between state government and the private sector upon which it depends, total authorized positions in state government during the 1977-79 biennium will be severely limited. Growth in FTE employees, if any, will be restricted to one-half the rate of growth of private employment in Montana. This policy will not be uniformly applied to individual programs or agencies, but it will be applied to total state government employment in the executive budget recommendations.

There are several means by which agencies can reduce the number of authorized positions without sacrificing necessary services to the public: first, through the elimination of low priority programs or the development of program strategies requiring less intrusive state agency roles (e.g., utilizing the private sector or local government as service providers); second, through a continuing process of reorganization to realign functions as service requirements change; and third, through

productivity savings resulting from management and methods improvements.

Public vs. Private Provision of Services

In order to provide a rational basis for program analysis under the above growth limitations, the following principle should be applied: free market solutions will be preferred to government action. This should be interpreted to mean that government programs should be eliminated where the free market can now safely and effectively meet public needs; direct financial assistance to individuals to meet their own needs is preferred to other forms of governmental intervention; and reliance on purchase of services from private nonprofit vendors or assistance to local government agencies is preferred to a direct state role where the efficiency and effectiveness of the service is not hampered.

In the process of applying these criteria, each program should first be assessed to determine the continuing need for public intervention. When there is a legitimate public role, a search should then be made for less intrusive alternatives for delivering public services. Innovative pilot projects to test new methods of service delivery and of public-private cooperation are encouraged. For state activities where it is inappropriate to consider private or community-based service alternatives, decentralization of program administration to the multi-county district or regional level may provide improved citizen access and improved services while reducing the state's commitment of personnel.

Any such analysis should include a thorough assessment of the fiscal impacts on both the state and other levels of government of any proposals to relocate program activities. In particular, the amount and type of state funds and technical assistance which should accompany relocated services must be clearly identified.

Executive Reorganization

Stagnant governmental organizations are a barrier to cost-effective management of services. Because the responsibilities of agencies are often changing, they should continually evaluate their internal organization and make adjustments to improve services, cut costs and consolidate programs. Continual evaluation of the need for and the prompt use of internal reorganization techniques reduces the probability that large scale reorganizational changes will be necessary.

Reorganizations are not only useful management tools, but also can be major policy instruments. Agencies should examine their programs to see if they can be made more directly available to citizens and better serve different needs in different areas of the state. Related services should be brought together, providing citizen convenience either through intra-agency program consolidation or the transfer of services between agencies when necessary to achieve such convenience.

At the same time, the larger process of inter-departmental reorganization should not be considered as completed. The existing state organizational structure should be periodically reassessed to determine whether, in the light of new problems or changing conditions, functional realignments which cross departmental lines should be proposed. In keeping with this concern is the need to stimulate both formal and informal communications across agency boundaries. A better understanding of common as well as unique problems should be the objective, along with a more effective application of resources to the search for solutions.

Productivity Improvement

Productivity improvement in the private sector has been an important economic issue for decades, but only recently have efforts been initiated

to assess its significance in government operation. Productivity is usually defined as the efficiency with which output is produced by the resources utilized in the production process. The ratio of outputs (goods and services) to inputs (capital and labor) is the usual definition of a measure of productivity.

The rate of productivity improvement is of critical importance to economic health, because of its influence on the rate of inflation. Low rates of productivity growth coupled with escalating wage demands can contribute significantly to an increasing rate of inflation, thus negatively influencing the standard of living. Given this significance, as well as the impact of government activities on national and state economies, the issue of productivity improvement in state government deserves increased attention. Steps must be taken to develop realistic measures of productivity and then to improve its rate of improvement in Montana. It is of critical importance that Montana's state and local governments increase the quantity and quality of public service provided per dollar invested; a better understanding of the role of productivity will greatly increase the chances of achieving this goal.

Productivity improvement can be accomplished in several ways: by reducing unit costs in activities where productivity can be easily measured; by improving the deployment of resources in areas not so easily measured; by improving organization and processing procedures; by developing and utilizing new technological devices and approaches wherever possible; by improving personnel management and supervisory methods and techniques; and by improving the supervisory skills of program managers.

Long Range Building Program

The massive state building program of the 1960's has established a physical plant which meets most of the basic state program requirements anticipated in the 1970's and 1980's. With the leveling off of higher education enrollments in the 1970's and projected declines in the 1980's, and with reductions in institutional populations, the need for new construction should be substantially reduced during the 1977-79 biennium.

In view of these enrollment and population changes and a critical need to reduce government expenditures, only those major new facilities which are critically needed and for which there is no alternative will be authorized. In addition, agencies are encouraged to consider innovative ideas that will allow underutilized facilities to serve new purposes and meet changing demands, and at the same time, assure the protection of the state's investment in facilities.

In its evaluation of 1977-79 agency building program requests, the Governor will adhere closely to this policy. Each project request will be carefully evaluated using the following criteria:

1. The building program shall reflect the operating budget policies, particularly where program growth is limited or program direction is changed.

2. Total construction shall be of a magnitude which will greatly limit the growth of debt service.

3. Better space management shall insure full and efficient utilization of existing facilities.

4. Projects that involve protection of facilities and occupants shall be given priority.

5. Building projects shall be carefully evaluated and selected to assist in the broad statewide effort to prevent the duplication of highly specialized and costly facilities housing special programs and services.

6. Alternative methods of reducing construction costs for new facilities shall be studied and applied.

7. Building improvements which do not substantially improve program effectiveness or operating productivity shall be denied.

COMMUNITY AFFAIRS

The potential exists in many of Montana's communities for experiencing the consequences of unplanned growth -- declining neighborhoods, inner city deterioration, and suburban sprawl. At the same time, many of the state's rural areas and smaller towns possess a similar potential -- in this case for decline as a result of population loss. To avert both of these trends is of the utmost concern to this Administration.

Much of this potential has resulted from regional and even national trends outside the control of the state. While significant progress has been realized, much serious planning, especially at the local level, still needs to be devoted to stemming or at least mitigating the effects of these trends within the state. Montana has recently started to focus attention on the task of improving the capability of local governments to respond efficiently and effectively to such problems, but much remains to be done. Outdated procedures and structures which severely constrain the ability of communities to act remain in force, especially at the state level. Local governments are expected to deal with the many serious problems which confront them daily, but are not provided with adequate authority or sufficient financial resources. In the meantime, the physical deterioration of our communities continues.

Montana must respond even more directly to this growing crisis. It is time to stop treating our communities as stepchildren and start relating to them as partners. There is little doubt of the importance and immediacy of the issue: It is imperative that local governments,

the state, and the federal government join together in searching for solutions to the problems which plague us all. This kind of partnership, however, will require massive readjustments in the attitudes and methods of operation on the part of everyone involved, but especially those at the state level.

The people of Montana are to be commended for already committing themselves to such an undertaking. A comprehensive program of local government modernization is underway, with city, town, and county study commissions, and local communities working to implement the local government article of the 1972 Constitution. Much progress has been realized to date and by 1977, a significant milestone will have been reached as a result of the Voter Review process. But much more remains to be done if the 1970's and 1980's are to truly be decades of progress for Montana's communities. Indeed, if our communities are to preserve their environment, grow economically, and meet the challenges of the future, they must enjoy three conditions: increased financial assistance; more technical and administrative assistance; and broader power and authority to deal with their own problems. It is up to the state to join with local governments to design and develop policies and programs which will meet these needs.

Accordingly, state government must involve itself in several areas of activity during the next six years if the modernization process at the community level is to continue to enjoy success.

Local Government Modernization

First of all, local government must have sufficient authority and flexibility to enable them to effectively contend with the challenges of

the future. Local jurisdictions must be encouraged to adopt self-government powers and the Legislature urged to approve a flexible local government code. The process designed to achieve these conditions is well under way as a part of the Local Government Study Commission's mission and should continue to be actively encouraged by state government.

A second important task is also in progress -- that of creating effective local government structures. It is essential that forms of local government be adopted that provide for representativeness, effective and professional management, and accountability. Communities should also be encouraged to experiment with new approaches to planning and service delivery, such as functional and structural consolidation of general purpose units as well as special service and taxing districts, and substate regional and district configurations.

Methods for improving local government management should also be developed. Improved and more widespread formal and in-service education and training opportunities must be made available to local officials and employees. These should be accompanied by increased technical assistance services and activities by state government agencies. In particular, the univeristy system should work with local governments to develop such opportunities. Of particular importance is the need for the development of a uniform budgeting, accounting, and reporting system for all local governments in the state.

Next, efforts must be made to insure that services delivered by local governments be accomplished in an efficient and coordinated manner. Such efforts must be based upon a rational and comprehensive functional assignment policy. Basic guidelines should be provided to local governments and the state to answer such questions as who should do what? And, at

what level of government should services be performed? The responsibility for delivery of services by state and various levels of local governments should be reallocated according to such a policy.

Fifth, there must be a balanced system of state and local finances. It is imperative that the fiscal impacts of state and local activities on each other be constantly assessed and adjusted so as to assure equity and maximum efficiency. In particular, local jurisdictions must be granted more flexibility in raising revenue from sources which are more responsive to economic growth than is currently the case.

Community Development

Of paramount concern here should be the preservation (and in some cases, the improvement) of the social and environmental well-being of our smaller, rural communities and the pursuit of a policy of "urban conservation" in our larger population areas. (By urban conservation we mean the utilization of existing structures and facilities whenever possible through a process of preservation and improvement of such structures.) The following policy initiatives are directed at meeting this concern.

First, Montana should take steps to encourage an orderly development process at the community level and make certain that state agency activities have a minimum negative effect on such a process. In those areas where it is a problem, the state should develop and apply an urban growth policy which influences residential, commercial, and industrial location. Moreover, the state should be prepared to play an active role in assisting communities in assessing and then meeting their physical facilities needs.

Secondly, natural forces in the housing market have resulted in an acute shortage of single-family dwellings. Rising construction costs and inflation have created pressures toward lower vacancy rates, thus bringing fewer preowned units onto the market. At the same time, new household formations are growing faster than the population as a whole. These pressures have created a housing market in which low and moderate income households are less able to acquire housing which meets or exceeds commonly held standards of quality. The state must play a more forceful role in not only providing low and medium cost housing, but also to assure that such housing is available to low and moderate income families.

What all of this requires, finally, is a rational and coordinated pattern of state/local relations. The Department of Community Affairs should assume the lead in developing a pattern consisting of the above and related elements. That department should, in addition to providing aggressive technical assistance and support services to communities, encourage local governments to pursue modernization efforts. At the same time, it should serve as an advocate for the interests of our communities with the Legislature and other state agencies.

As these policy guidelines are implemented, the process of the modernization of Montana's communities will have begun in earnest. Local governments will be allowed -- indeed, encouraged -- to have as much flexibility as possible to carry out a maximum number of duties within the broad policy goals established by the state. Our communities will truly be able to develop their capabilities to match their new responsibilities.

THE ECONOMY AND THE ENVIRONMENT:
A QUESTION OF GROWTH

To a considerable degree, the discussion concerning economic policy in Montana during the last several years has too frequently been characterized as either pro-development/anti-environment or anti-development/pro-environment. For many people this situation presents a delimma -- they want to maintain Montana's clean air and open spaces, and yet they also desire the opportunities they perceive in economic growth. There are indeed complex trade-offs involved, but we must not be led into submission to the philosophies of either the doomsday environmentalists or the "no holds barred" developers. Since Montanans are not well represented by either extreme, we must chart our own economic future. The basic question is really one of what is desired for whom.

Montana is no longer a remote island in a sea of plenty. Beset with a global food and energy crisis resulting from shortages of water, rapid population growth, and rapid depletion of fossil fuels, both the nation and world are exerting new and significant demands on Montana's agricultural and energy resources. This increased importance of Montana resources offers us a new opportunity to assess the economic future we desire, and dictates that a coordinated effort throughout government and the private sector be made to realize that future.

Any economic development program should be based on a realistic view of the role of government. Unlike the federal government, state government does not possess the policy and programming tools necessary to affect short-term changes in levels of employment, income, production,

and prices. This fact must be accepted and state job development acitivities must be directed toward a coherent and concerted effort to shape those long-term factors that can insure the existence of adequate employment opportunities.

Economic development and environmental management policies must be formulated within a specified aggregate growth goal framework. Simply stated, the goal of this Administration is to create job opportunities at a rate sufficient to provide employment for all Montanans -- those now unemployed and those entering the labor force. Should economic development occur at a faster rate, growth must be managed in a manner which maintains the levels of environmental and social qualities desired by the people of this state. Existing efforts within state government must continue to develop alternative growth goals and accompanying plans for managing such growth.

Within this overall growth goal we must inventory areas suitable for increased economic growth and activity taking into consideration the health of the existing economic base, availability of materials and energy, labor market factors, transportation, existing market demand, and pollution control requirements. Economic growth and activity will be encouraged in those areas that possess underutilized human and natural resource capabilities and are desirous of increased growth and activity.

Increased attention must be devoted to reconciling the skills of Montana workers with the requirements of jobs created. Potential new industries must be examined in terms of existing occupational skills. This policy dictates selective job creation as well as refined occupational training. Job creation must further be examined in terms of the level

and the variability of the incomes provided. Industrial recruitment efforts should attempt to provide additional stability to the economic base of the state and to attract industries which pay wages higher than the current state average.

Economic development programs must be created in an atmosphere of reality. Factors within state control -- taxes and environmental regulations -- usually rank far down the list in the minds of managers making plant location and expansion decisions. More important factors are those that have a greater impact on profits: resource availability, accessibility to final demand markets, and transportation rate structures. The recent increase in the demand for Montana's agricultural and energy resources changes our comparative advantage in light of these factors, and we must dedicate our efforts toward realistic development opportunities which build upon these advantages.

Agriculture

Montana's economy is primarily resource based; the dominant and most sustainable basic economic sector is agriculture. This fact suggests several actions. First, we must take effective steps to preserve our agricultural land base. This will require fresh initiatives in the area of land use planning to overcome the objections that have frustrated previous legislative proposals.

Second, we must take a hard look at the potential for additional crop production through increased irrigation. We must examine the factors that might favorably influence investment decisions in irrigation systems. Increased irrigation will require greater emphasis on water resource planning to reconcile the many competing claims for Montana's

water resources. We must also be concerned about uses of irrigation technologies that require high energy inputs due to unstable prices and diminishing supplies during the life of the investment.

Third, with Americans seeking alternatives to beef as a source of protein in their diets, and with wool becoming more competitive compared to petroleum based, synthetic fibers, sheep production should be increasing. Montana sheep production, however, has declined from 1.5 million in 1963 to 650,000 in 1975, largely as a result of decreasing effectiveness of available predator control measures. Livestock losses from predation and disease must be the focus of new attention.

Finally, a review of agricultural technology should be completed and marketing opportunities (especially international) should be examined. Montana State University and the Montana International Trade Commission are resources that can supplement the Departments of Agriculture and Livestock in this endeavor.

Energy

National and international pressures are causing a shift in United States energy consumption patterns away from oil and gas and back to coal. These pressures are well known: diminishing supplies and increasing costs of oil and natural gas; instability of foreign petroleum supplies; high capital costs of electrical generating facilities; and federal government policies which stress the substitution of secure, low-cost, domestic coal for insecure, high-cost, foreign oil. Additional constraints, particularly air quality considerations around major industrial and population centers, make it probable that much of the new coal development activity will take place in Montana which has large supplies of clean burning, low sulfur coal.

Because of the magnitude of the demand for increased coal resources and Montana's supply capability, it is important that a plan be developed which will provide guidance for the development and utilization of Montana's reserves. The state has an obligation as part of the nation to contribute its share in maintaining a satisfactory standard of living. However, a detailed assessment of the state's own needs -- in terms of energy, the economy, and the environment -- deserves primary consideration in the development of such an energy plan.

Declining Canadian natural gas exports to the state and dramatically increasing costs of the supplies available provide a second major stimulus to energy planning in Montana. Our most immediate response to natural gas shortages can be an all-out conservation effort and the conversion of some industrial users to alternative energy sources. In the long run, since it is unlikely that adequate natural supplies will be found, "exotic" forms of energy such as solar, wind, and synthetic production of natural gas must be seriously considered. The needs of Montanans are paramount and energy developments must be supported to meet the projected needs of Montanans.

The Legislature has required and the Governor directed that a comprehensive energy and growth policy be developed for the state before further energy production proposals are considered. This policy, developed within the framework of the above considerations, will provde a firm basis for planned development of coal which is becoming one of our more valuable economic resources.

It should be noted that there are many potential conflicts -- particularly demands on water and air quality -- implicit in the agricultural and energy development opportunities cited above. In considering

the trade-offs involved in any resource development proposal a balance must be sought between nonrenewable and depletable resources such as fossil fuels, particularly coal, and the renewable resources such as forests, water, wildlife, and agriculture. When potential conflicts arise we must bear in mind that renewable resources can be managed under a concept of stewardship to produce a sustained yield for future generations.

Environment

A third major resource in Montana is the quality of the environment. Although it offers much less potential for immediate impact on the economy, it is most important for consideration here. One need not wander far from our borders to realize that clear water, clear air, open spaces and an abundance of fish and game are no longer readily available to the majority of Americans. Many Montanans have chosen to accept a portion of their paychecks in the intangible form of a unique way of life conditioned by superb natural surroundings. Hunting, fishing, hiking, camping and skiing are Montana's substitute for pursuits more indigenous to large urbanized states. Not only will the value of Montana's environment grow in relative importance, but its uniqueness will increasingly attract outsiders. We must therefore guard against the so-called "Oregon effect," where environmental and growth policies have attracted national attention and resulted in accelerated growth, just the opposite of the desired result. In applying the what and for whom questions to the environment, we must extend our thinking beyond the brief time frame traditionally used for economic analysis to the time horizon of future generations.

The environment is a public good belonging to all citizens, now and in the future. It is erroneous to expect any form of adequate private market solution to the provision of environmental quality when the environment is not privately owned. It is the public nature of the environment that requires state government to serve as the guardian of environmental quality in accordance with the desires of the citizenry.

The complex and dynamic interrelationships which exist among state government activities, the economy, and the environment must be thoroughly analyzed. Montana must develop individual policies and programs within a growth planning framework. We have recently enacted legislation which will facilitate protection of the environment. In the days ahead trade-offs will be required and difficult decisions will be made, but if alternatives are continually analyzed within the context of the what and/or whom benchmark, the overall welfare of our people will be enhanced.

EDUCATION

Montana's concern for the future is reflected in the high priority it has placed -- and will continue to place -- on education. State government spends roughly one-fifth of its General Fund revenues to support elementary and secondary schools in Montana, a large portion of which is transferred directly to local school districts. The state also commits substantial public resources to higher education. When this support for the university system is added to the elementary and secondary monies and assistance for various intellectual and cultural enrichment programs, the total dollars spent on education in Montana constitute approximately forty percent of the resources available in the state General Fund. Given this significant expenditure, we must focus particular attention on the effective management of the state's educational resources.

The basic trends in enrollments at both the elementary-secondary and higher levels of education appear to be stabilization and decline. The birth rate has been decreasing in Montana since 1957. This trend has already been reflected in a declining elementary school (grades 1-8) enrollment. Whether it will be manifested in the higher education system in the future is questionable. While available evidence suggests that the demand for traditional higher education on the part of recent high school graduates will decline in future decades, it is also true that changes in clientele groups may be occurring. More older students, especially women, are seeking campus opportunities at all levels of higher education. Strong efforts are being made to bring education to

groups in all geographical areas. Without counting continuing education and extension programs, enrollment increased in the Montana University System by an average of six percent per unit, a total of 1,526 students, between the 1974-75 and 1975-76 school years.

If enrollments in the colleges and universities do in fact decline, the implications would be numerous, the most important being excess capacity in physical facilities at all levels; financing difficulties as educational costs continue to rise while enrollments decrease; and problems in the ability of institutions to be innovative in responding to needs and demands for new programs. It is therefore imperative that intensive efforts be made to develop more precise enrollment projections, looking as far into the future as 1990. Only with such projections available can rational decisions be made today on all facets of the University System's operations and needs.

At the same time, careful attention must be devoted to planning so that scarce resources are efficiently used. In the short run, this means continual review of the role, scope, and programs of the units of higher education. In addition, collaboration and innovation among university system units must be encouraged.

These and related trends indicate that a stronger and more sophisticated capacity for systematic assessment and evaluation of educational programs must be developed. Additional time and effort must be devoted to explicitly identifying the results desired and expected from expenditures of tax dollars on educational programs. Examples of the types of efforts required for improved management of educational resources in Montana include:

1. A long-range plan for a coordinated system of higher education, including both public and private institutions. This plan should include a comparison between the projected outputs of higher education programs and expected future occupational patterns in Montana, while recognizing at the same time that higher education does more than prepare people for jobs.

2. The development of a coordinated system which will provide Montanans with appropriate opportunities for vocational, technical and general continuing education and training. Montana is entering an era of postsecondary education in which there will be a need to plan for education beyond high school in a comprehensive manner, taking into account all forms of postsecondary education. One response to this situation would be the design of a system including the vocational-technical schools and community college units distributed in such a manner as to assure geographic equity. In any case, the emphasis should be on increased continuing adult educational opportunities and should support the geographic and occupational patterns of economic development that are likely to emerge in coming years. The current activities of the university system along these lines should serve as the basis for such an effort.

3. In the contemporary world of shrinking energy resources, new ways must be found to provide heat, light and power. The university system should play a major role in Montana's efforts to arrive at solutions to these problems.

4. Montana must recognize that it cannot afford medical and veterinary schools. Yet its citizens require these services and therefore, regional programs in these subjects should be supported.

5. Programs designed to help Montana school children attain reasonable levels of proficiency in reading and mathematics.

6. A plan should be devised which encourages maximum use of school facilties for non-school purposes when such resources are not being fully utilized to fulfill their primary educational purposes.

7. A thorough evaluation of the appropriateness of the formulae for distributing state aid to local school districts should be conducted in light of criteria such as local need and local effort.

Solving the problem of reading and writing difficulties among children and adults in Montana is an extremely important challenge, since reading skills are basic to other aspects of education and to the ability of an individual to participate fully in the economic, political, and cultural life of the state and nation. An effective response to this challenge is critical and will require widespread commitment and participation by many segments of Montana society, including professional educators and administrators, school boards, parents, librarians, and other citizens.

There is a further need for closer coordination between the basic and higher educational systems and the Montana's social service delivery systems. Programs dealing with juvenile and adult corrections, the developmentally disabled, and the vocationally disabled are dependent on public education systems for both direct services and staff development resources. Improved coordination between the systems would result in significant improvements in the effectiveness of all services in solving client problems. In particular, better mutual planning for the utilization of such resources is of crucial importance.

In summary, it is appropriate to paraphrase a statement by the Montana Post-Secondary Education Commission: while it is impossible to determine the precise impact of current trends, the future of education in Montana will differ markedly from the past. Simply conducting business as usual will not make the new realities disappear; yet, change for its own sake should also be avoided. The assumption, however, that old responses will be adequate for new problems and opportunities is dangerous. The choice that confronts the people of Montana is whether to begin to prepare for future conditions of the 70's, 80's, 90's and

beyond, or to let ourselves drift into the future locked into historical patterns which fail to address the real needs of our times.

HUMAN SERVICES

The purpose of the human services system in Montana is to assure each and every resident of the state a social and physical environment in which the opportunities for human growth and development are maximized. This can be accomplished by providing direct and ready access to human services of a quality which promotes such opportunities.

Just under forty percent of Montana's General Fund revenues are spent for various income maintenance, social and health services, and institutional programs. Given this significant expenditure, increased attention must be devoted to the effective and efficient management of these programs. In particular, special concern should be focused on the following matters.

Administration

Currently, components of Montana's human services system are contained in several agencies of state government, a fact which often makes effective coordination and management of the system's resources and programs difficult. This condition can negatively impact on the calibre of service delivery and the accessibility to services on the part of clients. Correcting any deficiencies resulting from such a situation is of the utmost importance. The improvement of system coordination and program linkages from both intra- and inter-agency perspectives should receive special emphasis in agency planning and budgeting efforts.

With the current expenditure level and the potential for increased costs of human services in the future, citizens are increasingly asking whether any real improvement can be observed in the system's operation and its impact on individual clients. It is time that we take the steps necessary to provide a definitive answer to the question. Accordingly, improvements in the planning (or resource allocation) and evaluation procedures utilized by human service programs are imperative: goals and objectives must be clearly and precisely stated and appropriate and comprehensible evaluation mechanisms must be established to measure a program's progress towards achieving those goals and objectives.

Community-based Care and Treatment

The process of providing community-based care and treatment as an alternative to institutional care for Montana's mentally ill and developmentally disabled patients has been and continues to be a policy initiative of the utmost importance. With the cooperation of the Forty-Fourth Legislature, the process was initiated with a significant level of funding and has so far made great strides towards success. But much remains to be done, especially in the areas of preventing inappropriate institutional placements and developing community-based programs which will allow patients to receive care and treatment in the least restrictive setting possible. Such efforts will continue to receive vigorous encouragement and support by this Administration.

The methods and techniques utilized to further this process should be intensively evaluated in order to gauge their effectiveness in achieving the objectives of the program. Adjustments should be made wherever and whenever necessary, and future planning should take them into account.

Finally, attention should be focused on extending the principle of providing care and treatment in the least restrictive manner possible to other institutional programs, particularly in the area of aging and juvenile rehabilitation.

At the same time, the physical conditions and staffing needs of Montana's institutions should not be neglected. While overall planning should be based on the least restrictive alternative concept, improvement of the conditions of our institutions in those cases where institutional care and treatment continues to be appropriate is of paramount concern. Again, the 1975 Legislature approved a program of improvement and this effort should continue to receive strong support.

Juvenile Rehabilitation

The area of juvenile corrections and rehabilitation is one that has not received special attention recently but is nevertheless of critical importance. The quality of care and treatment in this program has a direct and significant impact on almost every other human service activity, particularly that of adult corrections. For too long, the major result of the juvenile corrections system has been merely to produce clients for the adult corrections system. The time has come to call a halt to this process. The concept of providing diagnostic, detention, and rehabilitative treatment services for youth in trouble in the least restrictive setting possible should be applied to this system.

This can be accomplished in a variety of ways. First, the national strategy which calls for early identification of delinquent youth and treatment in community-based programs should be fully supported and implemented in Montana. State correctional authorities, moreover,

should take advantage of opportunities to establish community programs utilizing the resources of state or local social service agencies as alternatives to long-term incarceration. And finally in those cases where institutionalization is unavoidable, improved treatment methods should be designed and implemented. Whenever possible, these methods should incorporate rehabilitative procedures which stress strong interaction with the community.

Social Services and Income Maintenance

The key concepts in this area should be adequacy, efficiency, and accountability. In income maintenance programs, special emphasis should be placed on the development and utilization of new technologies designed to reduce the cost of administering the various activities while defining and providing for an adequate minimum standard of living for eligible clients. In the social services area, a plan should be devised which will provide for a more efficient approach to service delivery at the community level. In particular, alternative approaches to service delivery should be analyzed.

As for accountability, better methods for assessing program impacts must be devised. Given the growth potential in the various economic assistance caseloads, it is increasingly important to be able to determine if current assistance and casework methods are helping clients move from a state of dependency to one of non-dependency. Such information can provide resource planners with a much better idea of the potential growth rate of assistance caseloads. With the prospect of limited revenues in the future, such information is of critical importance.

Health Services

A recent definition of good health describes it as a "state of physical, mental, and social well-being and the ability to function, and not merely the absence of illness or infirmity." As this description suggests, the primary emphasis of the public health program in Montana should be placed on preventative and educational services. There are four broad factors involved in influencing the health of our citizens. Only one -- biological --is not generally susceptible to control. The other three factors -- the quality of the environment, the calibre of our health care systems, and the nature of the risks we take that are associated with our life styles -- can be greatly influenced by public and private actions.

Significant progress in reducing environmental pollution, a better organized and operated health care network, and increased education related to individual behavior patterns which lead to unnecessary risk taking -- such steps can have a substantial impact on improving the health status of Montanans. For example, the leading causes of death in the nation at the present time are heart disease, cancer, stroke, and accidents. All of these can be influenced by either improving the quality of our environment or changing our behavior patterns. It should be the primary purpose of Montana's public health system to initiate the steps which will produce these results; where such steps have already been taken, the concern should be with sustaining a high rate of progress. More specifically the following issues should be addressed.

1. Health Manpower. While there is a wide dispersion of acute-care hospitals throughout Montana, health care manpower, especially physicians, is extremely maldistributed through the state. The situation can be characterized by a general shortage of allied and para-

professional personnel, regional shortages of professional medical personnel (particularly in Eastern Montana), and a trend away from general practice toward increased specialization. Before adequate health care can be adequately delivered, medical personnel and facilities must be available commensurate with the health care needs of the population in each sector of the state. Since this maldistribution occurs mainly along urban-rural lines (only five counties in the state have a physician-patient ratio equal to or greater than the national average), attention needs to be focused on meeting the health manpower needs of rural areas first.

2. Public Health Systems. Another approach to alleviating rural health care problems is to encourage local health departments to experiment with new methods of organization and service delivery. Many states are experimenting with concepts and techniques aimed at health maintenance (or illness and disease prevention). Health maintenance organizations, diagnostically-oriented mobil health clinics, and multi-county health service organizations are a few such approaches. The effectiveness and feasibility of these and other similar approaches should be thoroughly investigated, with particular concern devoted to their applicability to Montana's diverse problems and situation.

3. Emergency Medical Services. It is critical that the state plan for providing emergency medical services throughout Montana be fully implemented. High quality emergency services are of the utmost importance to Montana citizens, especially in the more rural areas of the state.

4. Facilities Utilization. Finally, there is a definite need to investigate the potential use of local health care facilities (i.e., hospitals) in the state's deinstitutionalization efforts in the developmental disabilities and mental health programs. The availability of such facilities could provide the communities with a mild economic boost and at the same time aid the deinstitutionalization process.

Aging Services

The problems of Montana's older citizens are of particular interest and concern to this Administration. An estimated 107,000 persons sixty years of age and older currently reside in the state; by 1980, the aging population is expected to increase more than 10,000 residents. Most of

these older citizens have resided in Montana for most of their lives and are justifiably proud of the contributions they have made to their state and nation. All of them wish no more for themselves than the opportunity to continue to lead their lives with dignity and in a state of independence. It is critical that we provide them with as much support and assistance as possible in the attainment of that goal. We can accomplish this in several ways: (1) by helping those over sixty to make the best possible use of their resources; (2) by providing supportive services which will enable them to remain in their own homes; (3) when they cannot be so maintained, by making certain that facilities and programs offered by Montana nursing homes meet the highest standards possible; and (4) by offering opportunities for meaningful service and participation in community life.

The implementation of such an approcah will do much to insure that elderly Montanans are accorded the respect and gratitude they so richly deserve.

PUBLIC SAFETY AND PROTECTION

Public Safety and Protection in Montana covers a wide range of state government activities, all directed at the protection of persons and property. Included are such activities as highway traffic safety, consumer protection, personal safety protection, the protection of civil and constitutional rights, and criminal justice support activities. As in other areas, the basic concern is for improving the efficiency and effectiveness with which the various activities are carried out. An on-going effort is needed to provide state, local, and federal uniformity in providing public safety and protection. Particular attention along these lines should be focused on the following areas.

Criminal Justice

According to the Montana Board of Crime Control, Montana experienced a 19.3 percent increase in the number of criminal offenses over 1973. When compared with population data, the increase of offenses per 100,000 population was 17 percent. Most of the increase was in crimes against property (in fact, there was a 9.4 percent decline in offenses against persons). At the same time, 23.8 percent of the total 1974 offenses were cleared by arrest during the year, as compared with a 22.6 percent clearance by arrest rate for 1973.

Given this significant rise in the number of crimes (particularly those against property) and only a proportionately small increase in arrests, there exists an obvious need to streamline the clearance by arrest process. At the same time, personal rights of privacy in the

collection, retention, use and distribution of information cannot be abused. In response to this concern, the Montana Justice Project has organized task forces covering the entire criminal justice system -- police, courts, corrections, community crime prevention, and information systems. These task forces will be drafting minimum standards for each of these disciplines by March, 1976. Efforts in this area should be directed toward encouraging the public as well as agencies to actively participate in a dialogue on these proposals.

The salaries, training and qualifications of peace officers, as well as the sheer numbers of such officials, heavily influence the effectiveness of our criminal justice system. Through the Police Officers Standards and Training (P.O.S.T.) council, Montana has developed and implemented minimum requirements for employment of city police, county sheriffs and state Fish and Game wardens. Mandatory training requirements were enacted by law in 1974 and training schools are held throughout the year at the Montana Law Enforcement Academy in Bozeman. This is a program which is absolutely essential to the effective and fair administration of justice at the community level and should be vigorously supported by the state. Efforts should also be made to include criminal justice personnel from other agencies such as the Highway Patrol, Livestock Brand Inspectors and the Department of Institutions' Probation and Parole Officers under P.O.S.T. or another uniform personnel development system.

At the community level, a substantial need exists for the overall renovation or reconstruction of jails, both in terms of physical facilities and rehabilitation and treatment programs. In addition, sufficient authority should be delegated to state agencies with monitoring respon-

sibilities to enforce and maintain adequate facilities standards. The Jail Survey, conducted by the Board of Crime Control in December 1971, should be updated and utilized as the primary guidance in this area. Trends that should be encouraged include consolidation of detention facilities and the development of minimum security facilities to provide incarceration and rehabilitative treatment for youth in trouble.

Consolidation of law enforcement efforts is a process that is being pursued in many counties throughout the state. Continuous re-examination with regard to coordination and re-organization is a trend that promotes efficiency and effectiveness and should therefore be encouraged in all other counties where appropriate.

Finally, the importance of involving the general public in crime control efforts is self-evident. If Montana's crime rate is to be significantly diminished, all citizens must feel it their duty to aid in preventing and reporting criminal behavior. Programs which promote such involvement should be designed in cooperation with local authorities and disseminated widely throughout the state.

Highway Traffic Safety

Between 1972 and 1974 traffic on Montana highways increased by 8.4 percent, from 5,373 to 5,823 million vehicle miles, but the number of deaths on Montana highways dropped 32 percent, from 395 to 299. Despite these improvements, the direct economic loss from traffic crashes in 1974 was estimated at $107 million according to the Highway Patrol. The additional cost in human suffering and loss of the individual as a member of his family and society are unmeasurable.

The causes of traffic accidents are generally assigned to driver error, vehicle defects, or roadway environment defects (including

weather). In 1974, approximately 75 percent of the listed causal factors of Montana's fatal accidents were driver errors. Alcohol was found in 54 percent of the drivers killed, indicating that a significant number of the observed driver errors may have been precipitated by alcohol consumption. Alcohol, by the extent of its involvement in traffic accidents, is a real and distinct traffic safety problem area requiring specific and aggressive program action. Vehicle defects account for only 3 percent of the listed causal factors in 1974, while roadway environment defects comprised about 24 percent.

The most commonly accepted cause of traffic accidents according to both Montana statistics and national studies is driver error. Even though more controllable factors such as vehicle and roadway environment are easy targets for state or federal priority in program plans, the maximum payoff in reduction of loss of life and property due to traffic accidents will come from behavior changes in driver technique. Consideration should be given to the use of educational and legal mechanisms designed to influence such behavior.

Consumer Protection

State government in Montana has made some significant progress in the area of consumer protection during the past few years. However, more emphasis is needed to ensure that Montana consumers are better protected from illegal and unethical practices. At the same time, it should be noted that such efforts do not imply an anti-business program; in fact, business will benefit from measures taken to protect the public through a well-informed, conscientious consumer.

Currently, consumer protection resources and activities are spread among several agencies in all three branches of government. There is no

guiding strategy designed to concentrate these resources or coordinate the various activities. Such a strategy is badly needed. In addition, it is important that agencies in each branch of state government with consumer protection interests vigorously pursue those actions appropriate to their respective branch.

Accordingly, the Department of Business Regulation will be the "lead" agency in administering consumer protection laws for the State of Montana. Resources should be concentrated in that agency in keeping with a specific strategy for developing and enforcing consumer protection legislation. Programs should be initiated to stimulate citizen interest in consumer problems by focusing public attention on specific problems through dissemination of consumer news over radio and television and through public hearings and public speaking appearances by agency personnel. Moreover, the department should assume responsibility for coordinating all similar activities in state government as well as serving as the principal advocate for the interests and rights of the Montana consumer with all state agencies.

TRANSPORTATION:

PROTECTING THE STATE HIGHWAY INVESTMENT

Transportation plays a critical role in economic development and should be viewed like any other activity that involves the use of economic resources. As a requisite of economic growth, Montana must assess the needs of its existing transportation system in light of projected future requirements. At present, Montana's transportation network consists of its highway system, limited mass transit, and infrequent rail and air passenger service. A thorough analysis of future transportation requirements may necessitate a modification of our approach to transportation planning from heavy dependence on highways to increased emphasis on other modes such as air, rail and interstate barge transportation.

In the meantime, Montana's heavy reliance on its highway system is reflected in current state expenditures. Approximately 16 percent of the total state budget (including all sources of revenue) is devoted to highways. Expected future gasoline shortages, the advent of the 55-mile speed limit, inflation, and reduced available funding dictate a modified transportation policy which is designed to best utilize available funds for the greatest number of Montanans.

In theory, highway dollar investments should be made so that each new project improves the effectiveness of the transportation system and yields new benefits to Montana citizens. In reality, however, the total benefits expected from the transportation system are not received because older roads have deteriorated as new ones are opened. Those

benefits expected from a highway actually accrue in full only if its surface is properly maintained in future years. If the surface is not maintained, travel times are increased, safety hazards develop, wear and tear on vehicles increases, and water seepage will eventually break up the roadbed to a point where reconstruction is required.

A number of variables -- in particular the requirements attached to federal aid -- have created a situation that requires investigation into a major resurfacing policy as an alternative to the present primary emphasis on reconstruction. Only dramatic changes in transportation policy can truly address this problem.

During the last ten years, 1,400 miles of new road have been added to Montana's Primary System, an increase in total system miles of 30 percent. However, Highway Department Sufficiency Studies indicate that the overall sufficiency of the Primary System has remained fairly constant -- 61.8 percent sufficient in 1965 compared to 61.4 percent sufficient in 1974. Thus the total highway system has not improved and older sections of highway are becoming obsolete as rapidly as new sections are completed: 1,842 miles were deficient in 1965 as compared to 2,340 deficient miles in 1974, an increase of 27 percent.

The reason for this apparent misallocation of resources is that state highway earmarked revenues, mainly motor fuel taxes, can be used as matching money with federal highway trust dollars for new construction, while maintenance must be 100 percent state supported. One dollar of state highway money can be used to buy one dollar worth of maintenance, or when matched with federal money, to buy $11.35 worth of new interstate construction or $3.85 worth of new primary and secondary construction.

The Highway Department's Needs Study for 1974-1994 indicates an immediate need for improvements on approximately 2,952 miles of primary highways at an estimated cost of $681,991,000. Of the miles of highway listed as requiring immediate improvement, 47.3 percent call for total reconstruction, 47.2 percent call for widening, and only 5.4 percent call for resurfacing. The average cost figures in the study show a cost of $295,000 per mile for reconstruction compared to $45,000 per mile for resurfacing. The Needs Study thus clearly indicates a current practice of waiting until roads deteriorate to a point that requires reconstruction, rather than scheduling earlier resurfacing and other preventive maintenance.

The Needs Study figures and sufficiency data pose serious questions about the cost-effectiveness of past and present allocations of the state's highway revenues to new construction versus resurfacing and other highway maintenance.

The present condition of Montana's highways, the large amount of newly completed and planned highway construction, continuing road deterioration, and increased maintenance responsibilities necessitate that highway funds be regulated to ensure the highest quality standards commensurate with continous cost-benefit considerations and safety to the motoring public. The benefits of each newly proposed highway project should be compared to the benefits which would be derived from repairing existing roads to determine the mix of new roads and resurfaced roads which would deliver the most service to the public. The cost-benefit analysis of a new highway project must include the costs of deterioration of the system (i.e., highways which break up because they were not resurfaced in time) as well as the actual construction costs. In many

cases a new project will still offer more potential benefits, but the need to reallocate resources between new projects and protection of existing investments must be addressed.

Further, consideration should be given to the following areas in an effort to maximize the cost-benefit relationship of the highway construction dollar:

1. The State of Montana must play an aggressive role in urging the federal government to redesign the Highway Trust Fund matching formulas so that we can maximize our tax dollars for maintenance of our highway system as well as new construction.

2. The primary sources of man-caused abuse (studded snow tires, overweight vehicles) to road surfaces should be examined to determine whether restrictions in these areas would help alleviate the resurfacing crisis.

3. A concerted effort to lend flexibility to engineering standards and highway programs should be investigated to improve overall administration of highway funds.

4. The latest developments in highway construction management (stage construction) and technology should be evaluated to determine if their use could offset future construction costs.

Given the significance of Montana's dependence on its highway system, the state's other transportation needs should not be overlooked. In the long-run, the state's interests will be best served by development of a balanced transportation system commensurate with economic development and population growth patterns in the state. The use of highway earmarked revenue funds, such as those appropriated by the Forty-Fourth Legislature in Chapter 515, Laws of Montana, 1975, should be evaluated to determine if the construction of facilities such as public transportation systems and airport development is a legitimate use of those funds. Montana's transportation planning must consider development of such systems in an effort to improve public transit service, reduce

vehicular travel, and meet future transportation needs at a minimal cost. Montana's overall transportation systems must be long-range orientated and not be simply a myopic response to short-term demands.

AN ANALYSIS OF THE MONTANA ECONOMY

EXECUTIVE SUMMARY

An historical analysis of Montana's economy from 1950 to the present has been conducted in order to provide some insight into the future. Speculation about the future is always risky, particularly in the complex economic world. In the absence of an economic "crystal ball", an analysis of historical trends is the most widely accepted basis for providing educated guesses about the future. One of the greatest difficulties faced by the analyst at the state level is the dearth of timely, accurate, and complete data. Even if the data were complete, the analyst must be certain the time period examined is long enough that the hypothesized trends are realistic indicators of the future and not unusual deviations.

The time period studied has been broken into two major groupings, 1950-1970 and 1970-present. The first period has been thoroughly studied and reported in detail in the Montana Economic Study performed by the University of Montana. Nearly all indicators during the period portrayed a slow growth situation. The state's economy failed to create jobs sufficient enough to maintain the natural growth in its population and the result was a net outmigration of 25,000 people during the 1950's and 58,000 during the 1960's. The unemployment rate was typically higher in Montana than in the nation and the per capita income failed to keep pace with the national increase in affluence. A considerable portion of the slow relative growth was attributable to the poor performance of Montana's primary industries.

During the recent period, 1970-1975, the state has experienced prosperous times relative to the nation. The U.S. Bureau of Census

estimated that Montana's population as of July 1, 1975 was 748,000, representing a 7.7 percent growth since 1970, 60 percent higher then the nation's growth, and a net immigration figure of 26,000 for the period. The unemployment rate for Montana during 1970-1974 averaged a 0.8 percent above the U.S. This is to be expected given the seasonal nature of our economy's structure. However, Montana's unemployment rate during 1975 was 0.4 precent lower than that of the nation, reflecting our relative insulation from national business cycles. Montana's per capita income moved from 15 percent below the national average in 1969 to 9 percent below in 1974. A considerable amount of the economic prosperity in the 1970's appears to be attributable to a favorable agricultural situation. The 1970 period has confirmed the fact that Montana's economy is considerably more insulated from national business cycles than most states, but is subject to its own, often more dramatic ups and downs resulting from changes in agricultural prices and demand.

The last chapter of the following study attempts to project into the future, using alternative historical information as the basis for such projections. Three economic projections are presented, each using a separate set of assumptions. It is not possible for us to attach objective "most likely" assessments to each. However, it is clear that the economic future of Montana is tied closely to the future of the agriculture sector. Everyone is aware of the capricious behavior of agricultural receipts. Coal development will exert a growing influence on the overall level of economic activity in the state, but within the foreseeable future Montana will remain an agriculturally based state. In summary, Montana's economic future is dependent to a great extent

upon factors beyond our immediate control such as weather, international trade laws and agreements, and federal energy policies. This fact does not reduce the importance of state policies, but rather makes it even more essential that individual policies and programs be uniformly and comprehensively assessed and formulated within specified long-term goals.

MONTANA'S ECONOMY FROM 1950 TO 1970:
TWO DECADES OF SLOW GROWTH

Montana was unusually prosperous in the years immediately following World War II, thanks largely to the favorable conditions in agriculture. The situtaion changed, however, beginning about 1950, when Montana's economy turned lackluster. From 1950 to 1970, the state experienced scattered periods of above-average prosperity, but they were due mostly to unusually good years in agriculture or to other isolated events. In general, Montana's economic position relative to the rest of the nation deteriorated significantly. There is not the time to document these events; they are adequately discussed in the Montana Economic Study and elsewhere. Instead, a summarization of some of the major conclusions is provided so that Montana's current economic situation may be put into its proper perspective.

Population

Population trends are examined first because, underneath it all, an economy consists of its people. Table 1.1 compares the population of Montana and the United States during 1950, 1960, and 1970. During the fifties, Montana's population increased significantly, but at a rate below that of the United States; an increase of 14.2 percent compared to a national increase of about 18.5 percent. Between 1960 and 1970 the disparity between growth rates in Montana and the United States reached dramatic dimensions; with Montana experiencing only a 2.8 percent gain, while the nation's population grew at a 13.3 percent rate.

Table 1.1

Resident Population of Montana and the United States
1950-70

	Resident Population			*Percent Change*		Net Migration	
	1950	1960	1970	*1950-60*	*1960-70*	1950-60	1960-70
Montana	591,000	675,000	694,000	*14.2*	*2.8*	-25,000	-58,000
United States	151,326,000	179,323,000	203,185,000	*18.5*	*13.3*	2,462,000	2,020,000

Sources: U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 304 (table 4) and No. 460 (table 3). Percentages derived.

During the fifties, about 25,000 more persons left the state than moved in, and between 1960 and 1970 this figure rose to 58,000, over 8 percent of the 1960 population.

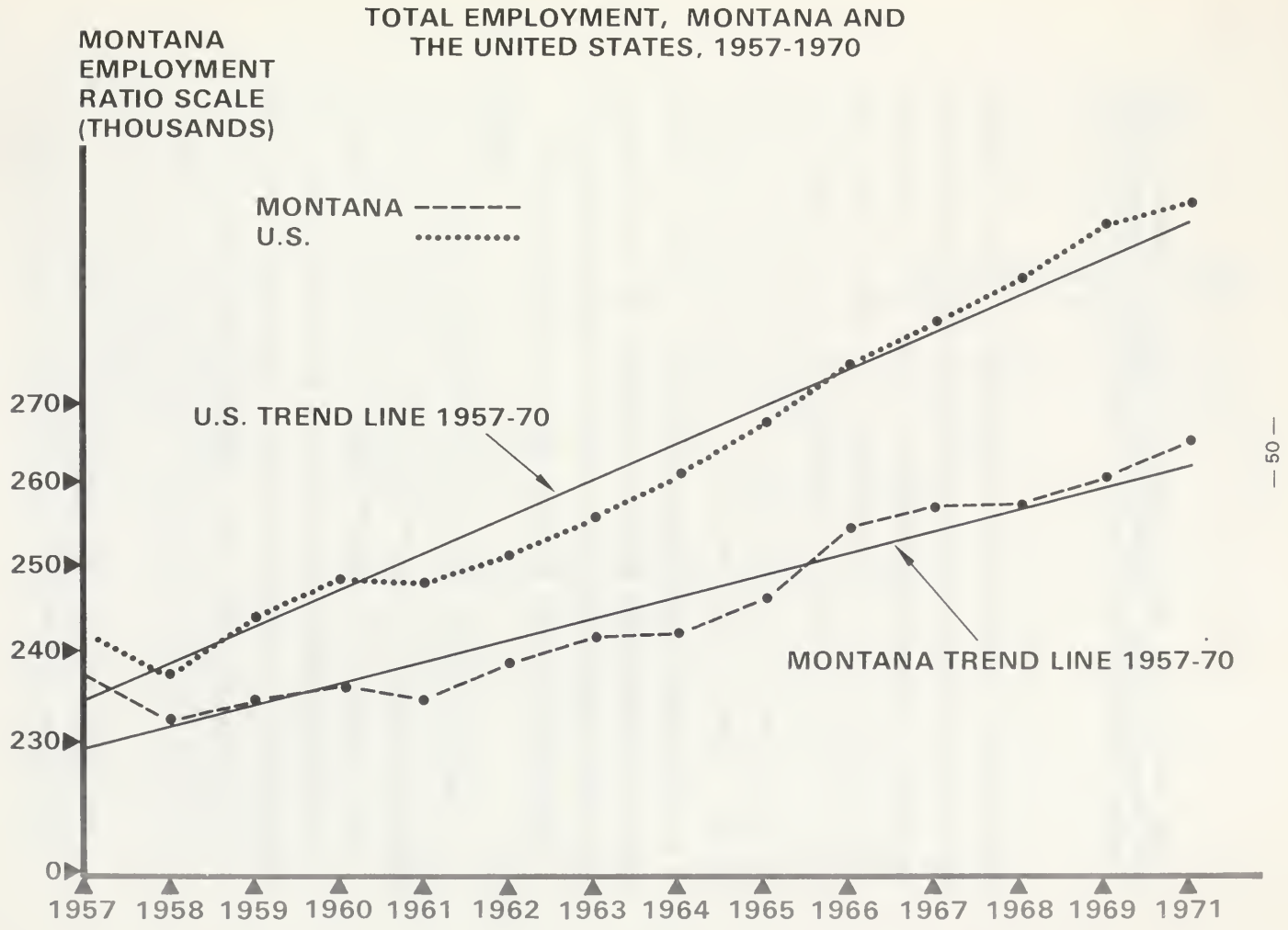
People move for many reasons. It would be impossible to interview each and determine his or her motives. But, there is evidence that a significant portion of those leaving did so because they could not find a job in the state. A study of Montana college graduates between 1965 and 1970 found that about 77 percent wanted to stay and work in the state but only 58 percent actually remained.[1] A major reason contributing to this 19 percent discrepancy was the lack of suitable employment.

Employment

The overall trend in the labor market is shown in the employment and unemployment figures for Montana and the United States between 1957 and 1970 (1957 is the earliest year for which reliable Montana data are available). Figure 1, indicates that employment in Montana grew at a much slower rate than did employment in the nation as a whole. Abstracting from the yearly fluctuations, Montana's employment grew by about 12 percent between 1957 and 1970, as compared to almost 23 percent in the United States as a whole. The unemployment data shown in Figure 2 tell much the same story. Montana's unemployment rate generally followed the same up and down pattern as that for the United States; but, with several exceptions, it averaged about one full percentage point above the national

[1]Paul E. Polzin, "Special Report: Why They Leave, A Survey of Montana College Graduates," Montana Business Quarterly, Bureau of Business and Economic Research, University of Montana, Vol. 10, No. 4 (Autumn 1972), p. 26.

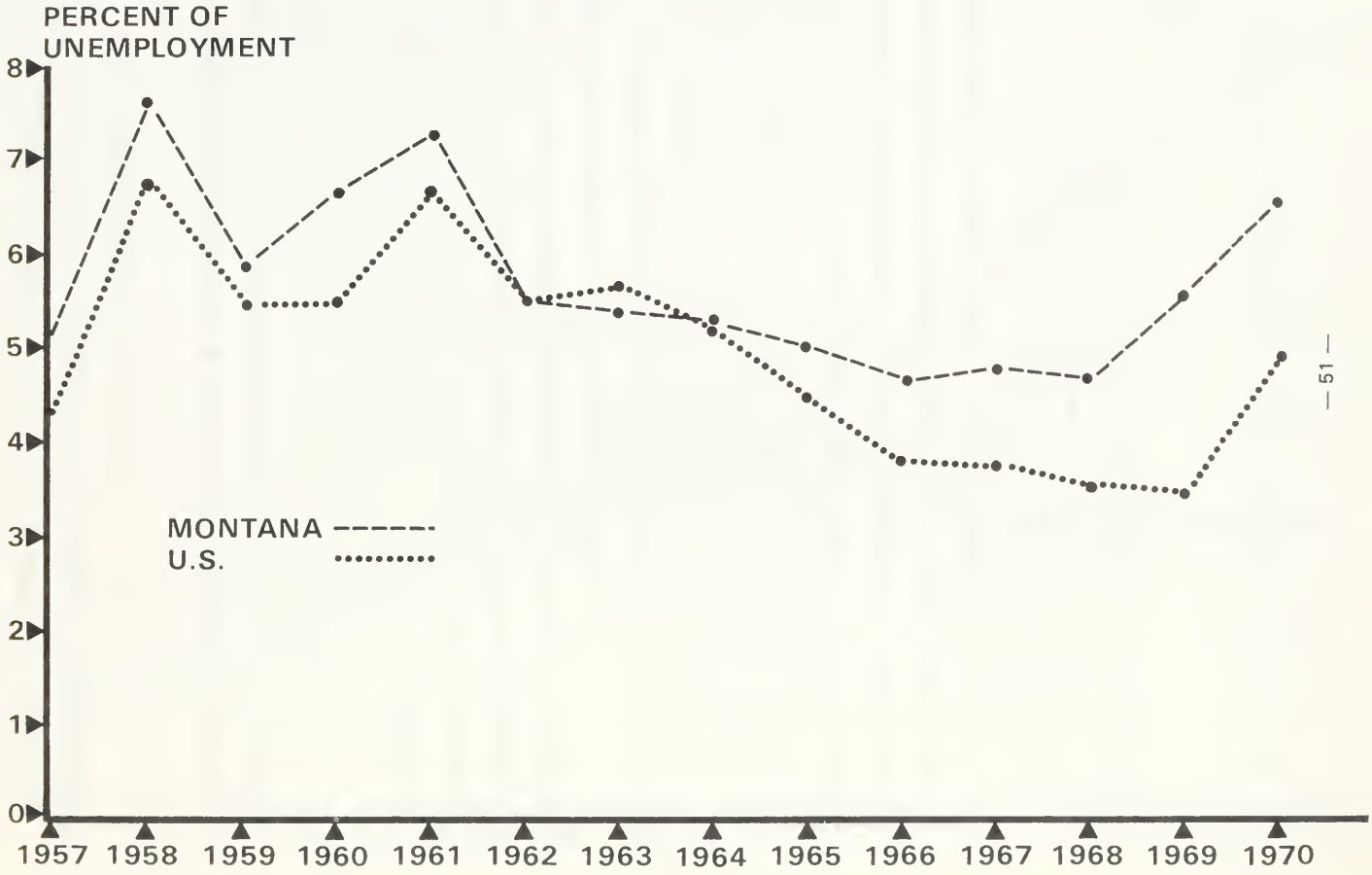
FIGURE 1



SOURCE: Montana Department of Labor and Industry, Employment Security Division

FIGURE 2

UNEMPLOYMENT RATES, MONTANA AND THE UNITED STATES, 1957-1970



SOURCE: U.S. Department of Labor, *Manpower Report of the President,* 1970 and 1974

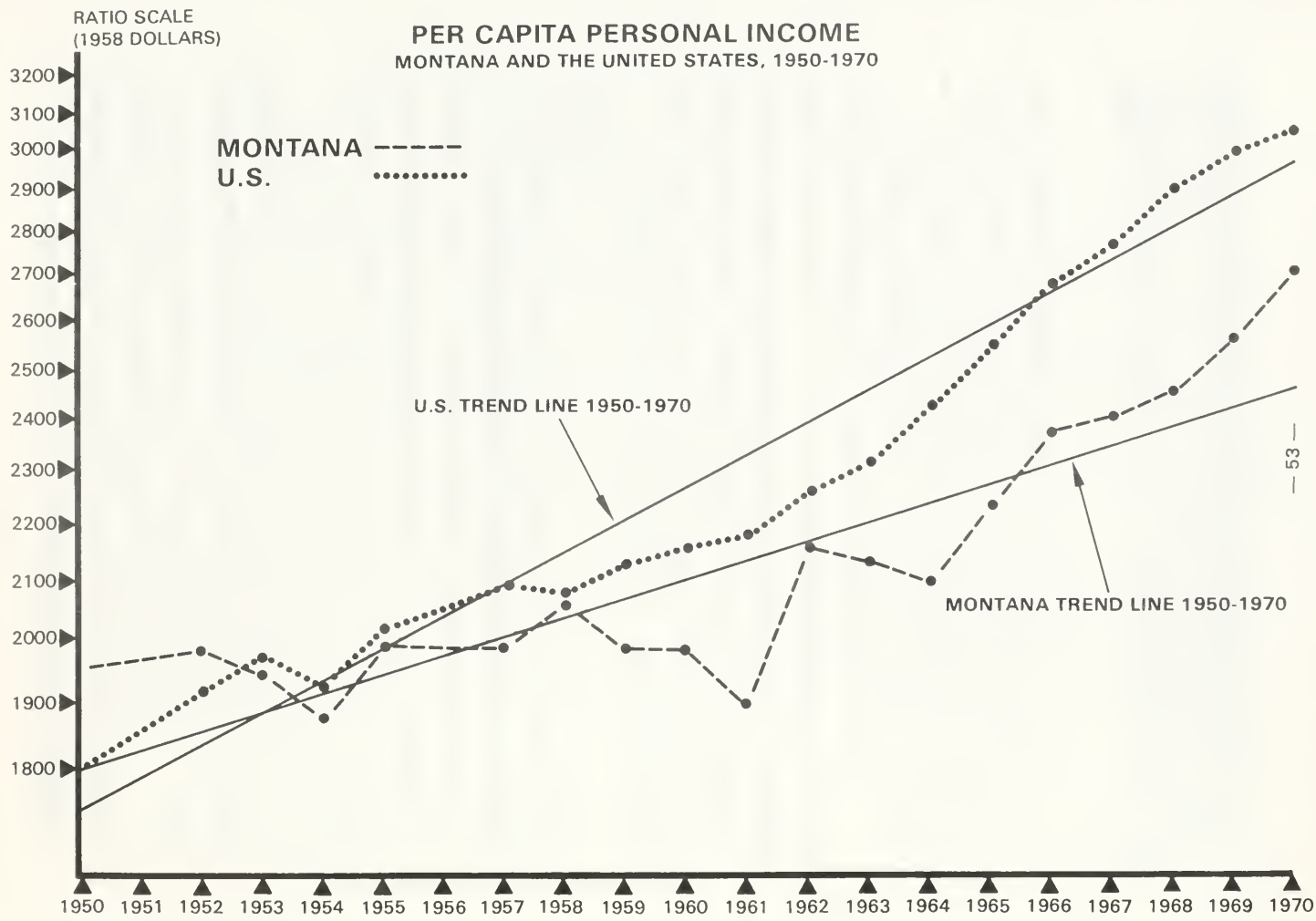
figure. Thus, the data suggest that Montana's economy was not creating jobs as fast as the national economy, and that employment opportunities were more plentiful elsewhere in the nation.

Income

Employment figures provide a good overall perspective of economic growth, but they do not measure the economic well-being of the individual. There is no single, comprehensive measure of well-being, however, a widely accepted indicator is per capita personal income, which is aggregate money income divided by population. The major shortcoming of this index is that it equates well-being with money income and certainly Montanans enjoy considerable benefits which are not easily measured in terms of dollars. Per capita personal income, nevertheless, is the one measure which is readily available and easily understood.

The trends in per capita personal income for Montana and the United States, converted to 1958 dollars to eliminate the effect of national inflation, are shown in Figure 3. Between 1950 and 1970, per capita income in Montana rose from $1,957 to $2,710, an increase of 38 percent. During the same period, however, per capita income in the United States rose from $1,805 to $3,067, an increase of 70 percent. In other words, in 1950 the income of the average Montanan was 8 percent greater than the average for the nation. But by 1970 this figure had dropped to 12 percent below the nationwide average. Although the year-to-year data portray numerous fluctuations, the overall trend is unmistakable: per capita income in Montana grew at a much slower rate than in the United States.

FIGURE 3



SOURCE: U.S. Department of Commerce, *Survey of Current Business,* August 1973

Several detailed studies of the reasons behind the low incomes concluded that most of the difference between the figures for Montana and the U.S. could be attributed to the following factors:[2]

(1) A lower proportion of the Montana population at work. The decades of net outmigration depleted the ranks of the young and able-bodied leaving proportionately more of the very young and very old.

(2) A "perverse industry-mix." This simply means that Montana has a greater than proportionate share of its jobs in low paying industries. For example, high paying manufacturing jobs represented 25 percent of the total in the U.S., but only 9.7 percent in Montana during 1970.

(3) A higher unemployment rate in Montana. Montana's labor force has continually been subjected to greater degrees of unemployment than the nation.

As stated before, per capita income does not include non-monetary income, such as clean air, clean water, abundant opportunities for outdoor recreation, etc. Some people argue that the relative decline in per capita income is compensated by placing greater value on non-monetary income, thus producing a level of well-being for Montanans that is just as great, or possibly greater, than the average for the nation.

The data for employment, unemployment, and per capita income each represent a different facet of Montana's economy and may be subject to varying interpretations; but together they protray a dismal picture of Montana's economic performance between 1950 and 1970.

---

[2]Abstracted from the following citations: Montana Economic Study, Bureau of Business and Economic Research, University of Montana, Missoula, 1970, Vol. 3, Chapter 3. Paul E. Polzin, Structural Determinants of Wage and Income Levels in Montana, a staff study of the Montana Economic Study, Bureau of Business and Economic Research, University of Montana, 1970. The analysis in these reports was duplicated using more recent information.

The Reasons for Slow Growth

The next step is to explain the economy's poor performance during the 1950-70 period. A state's economy can be conceptually divided into primary and derivative industries. Primary industries are those which depend heavily on markets outside the state or are otherwise influenced by factors originating beyond its political borders. The major examples are agriculture, mining, manufacturing, railroads, and the federal government. Derivative industries, on the other hand, primarily serve the local population and include wholesale and retail trade, the services, and state and local government. The economic base theory holds that most economic growth occurring in relatively small areas, such as states, can be attributed to events outside the region and that changes in the derivative industries can be primarily related to changes in basic or primary industries. Employment multipliers quantifying this relationship can be estimated by the ratio of derivative to primary employment. It is hypothesized that for each new job that is created (by external demand) in the primary sector, an additional number of support jobs will appear in the derivative sector.

Table 1.2 presents Montana employment in primary and derivative industries in 1950, 1960 and 1970. Between 1950 and 1970 total primary employment declined by over 18,000 workers. During the same time derivative employment increased by over 55,000 workers. The apparent conflict between this data and the economic base theory cited above can be explained. Over a period as long as a decade growing national affluence, increasing labor force specialization and a maturing economic structure cause an increasing demand for public and private services relative to primary production. This long-term increase in the ratio of

Table 1.2

Civilian Employment in Montana, 1950-70

Industry	Civilian Employment (Thousands) 1950	1960	1970	Change in Employment (Thousands) 1950-60	1960-70
Primary industries	103.3	86.6[1]	85.1	-16.7[1]	-1.5[1]
Agriculture	52.8	39.2	36.1	-13.6	-3.1
Mining	10.2	7.9[1]	6.6	- 2.3[1]	-1.3[1]
Metal mining	7.8	5.0[1]	4.0	- 2.8[1]	-1.0[1]
Coal mining, oil and gas extraction, and non-metallic mining	2.4	2.9	2.6	0.5	-0.3
Manufacturing	18.0	20.6[1]	23.9	2.6[1]	3.3[1]
Food and kindred products	4.2	4.3	4.3	0.1	0.0
Lumber and wood products	5.4	7.3	8.2	1.9	0.9
Primary metals refining	4.0	4.0[1]	4.7	0.0[1]	0.7[1]
Other manufacturing	4.4	5.0	6.7	0.6	1.7
Railroads	14.0	9.0	6.6	- 5.0	-2.4
Federal government	8.3	9.9	11.9	1.6	2.0
Derivative industries	125.2	150.3	180.6	25.1	30.3
Nonrail transportation, communications, and utilities	7.9	10.0	10.8	2.1	0.8
Contract construction	10.5	11.0	11.0	0.5	0.0
Wholesale and retail trade	36.7	40.5	48.1	3.8	7.6
Services and finance	23.4	30.0	41.8	6.6	11.8
State and local government	20.0	28.6	40.7	8.6	12.1
All other employment	26.7	30.2	28.2	3.5	-2.0
Total employment	228.5	236.9[1]	265.7	8.4[1]	28.8[1]

Sources: University of Montana, Bureau of Business and Economic Research, *Research Report of the Montana Economic Study*, pt. 1, vol.2, chap. 2, table 2.4; and Montana Department of Labor and Industry, Employment Security Division, *Montana Employment and Labor Force*, table C (revised March 1974). Percentages derived.

Notes: The data have not been adjusted for residence and multiple job holders. Percentage detail may not add to totals because of rounding.

derivative to primary employment complements the export base theory relationship. Note that the growth in derivative employment in the sixties exceeded growth in the fifties, this correlates with the changes in primary employment. It is also worth noting that primary jobs are generally higher paying than derivative jobs. The major employment increases in Montana were in trade, services, and state and local government which are low paying sectors.

Conclusions

Montana's population grew at a rate far below the national average between 1950 and 1970 due, primarily, to net outmigration. The major determinent of this net outflow of people was an insufficient number of new jobs being created. Also, the average level of economic well-being, as measured by per capita income, failed to keep pace with the increases experienced elsewhere in the nation. This slow economic growth can be traced to the poor performance of Montana's primary industries and to the fact that the major expansion occurring was in low paying sectors.

1970 TO THE PRESENT:
HAVE WE TURNED THE CORNER

The previous section traced the weak performance of Montana's economy between 1950 and 1970. But, this is history. It is now five years later and conditions may have changed; the conclusions concerning the fifties and the sixties may no longer be relevant half-way through the seventies. In the following pages updated information is presented and an attempt is made to assess whether or not there have been alterations in the underlying economic trends.

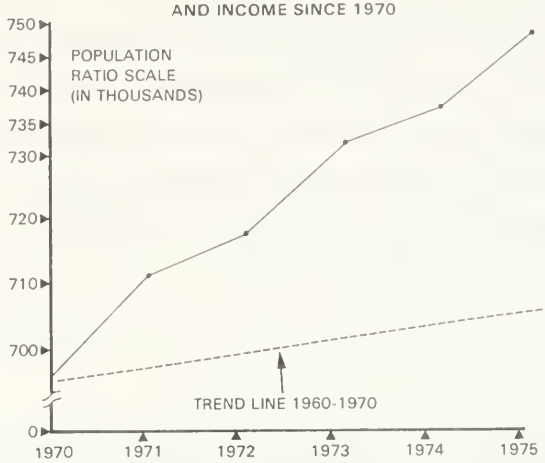
Analyzing current economic conditions, particularly at the state level, is fraught with danger because of the lack of up-to-date and accurate data. Moreover, even if the data were complete, the time period is too short to be certain of any suggested trends. The underlying trends identified in Figures 1-3 were noticeable only when viewed over a long period. Finally, the full implications of the recent national recession are not fully known yet.

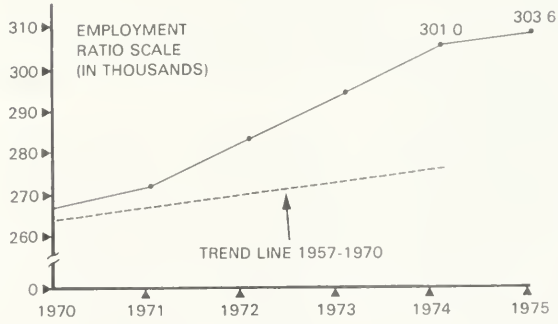
Figure 4 presents the data for population, employment and per capita income in Montana since 1970. According to preliminary estimates, Montana's population was 748,000 on July 1, 1975, up from about 694,000 in 1970.[1] Montana's 7.7 percent growth during the 1970-1975 period is well above the 4.8 percent national growth rate. Montana ranked sixteenth among the 50 states in growth rate during this period compared to

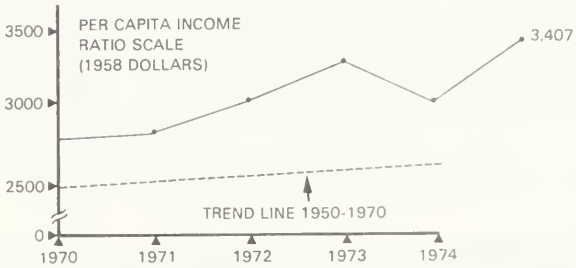
[1]U.S. Bureau of the Census, Population Estimates, Series P26, No. 109, 1975, p. 3.

FIGURE 4

MONTANA'S POPULATION, EMPLOYMENT AND INCOME SINCE 1970







SOURCES U S Bureau of the Census, Montana Department of Labor and Industry Employment Security Division U S Department of Commerce Bureau of Economic Analysis

a ranking of forty-fourth for the 1960-1970 decade. During the 1970-1975 period, Montana has had an estimated net inmigration of 26,000 persons, or 3.8 percent, which if it continues through 1980 will represent the first decade of net inmigration since the homestead period of 1910-1920. However, the 1975 population figures are only U.S. Bureau of Census estimates and are not as reliable as the actual counts provided by the census every ten years. (Similar estimates during the first half of the 1960-1970 decade tended to overstate actual population increases for the entire decade.)

Total employment in Montana increased by 15.6 percent between 1970 and 1975, more than double the rate of national increase during the same period of only 7.8 percent. However, the size of the labor force in both Montana and the U.S. increased even faster than the rate of job increases, 18.5 percent and 12.0 percent respectively, resulting in increasing unemployment.

Similarly, Montana's per capita income increased at a faster rate than the national average. Montana per capita income moved from 85 percent of the national average in 1969 (the base year for 1970 Census calculations) to 93 percent of the national average in 1975.[2]

Taken together, these figures seem to indicate that Montana's economy has performed considerably better since 1970; population, employment and per capita income are all exceeding their historical trends and are all gaining ground relative to the nation. Before speculating about whether this trend can be expected to continue, let us examine recent developments in Montana employment by industrial sectors.

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[2]U.S. Department of Commerce, Commerce News, May 11, 1976.

Employment in Montana's non-agricultural wage and salary industries has increased 19.2% during the 1970 to 1975 period. This compares with a 8.6 percent increase for the Nation during the same period. Industry growth in Montana has been experienced in all major industry classifications except manufacturing, and all industries are growing faster than those of the Nation except manufacturing, mining and government. (See Tables 2.1 and 2.2).

Employment by Sector

- Manufacturing -

Manufacturing in Montana accounted for 9.2% of the total non-agricultural wage and salary employment during 1975. The lumber and wood products and primary metals industries account for better than half of the total manufacturing employment in Montana. Since the early days of Montana's history, primary metals and lumber and wood products have played an important role in the economy. The slight decrease from 23,900 employed in 1970 to the 22,200 employed in 1975 was influenced mainly by the nationwide recession. Employment was stable in both lumber and wood products and petroleum and coal products, while primary metals employment decreased by 1,400 as a result of depressed copper prices. Technological innovations in those industries have created decreased employment opportunities. The highly variable demand and accompanying volatile prices for the final products manufactured in such industries, provide an environment that is very susceptible to economic pressures outside Montana.

- Mining -

Montana's mining employment has increased 1.5% during the 1970 to 1975 period as compared with a 19.6% increase for the Nation during the

Table 2.1
Civilian Non-Agricultural Employment in Montana
1970 and 1975
(Thousands of Jobs)

	1970	1975	1975 % of Total	% Change 1970-1975
Total Non Ag. Wage & Salary	201.4	240.0		19.2
Manufacturing	23.9	22.2	9.2	-7.1
Mining	6.6	6.7	2.8	1.5
Construction	11.0	12.4	5.2	12.7
Transportation	17.4	19.2	8.0	10.3
Trade	48.1	59.5	24.8	23.7
Wholesale	9.8	11.9	5.0	21.4
Retail	38.3	47.6	19.8	24.3
Finance, Ins., R.E.	8.1	10.2	4.2	25.9
Services	33.7	44.9	18.7	33.2
Government	52.6	64.9	27.0	23.4
Federal	11.9	14.2	5.9	19.3
State	15.9	18.5	7.7	16.4
Local	25.0	32.2	13.4	28.8

Source: "Annual Statewide Labor Force Report" (for each year), Employment Secruity Division.

Note: These data have not been adjusted for residence and multiple job holders.

Table 2.2
Civilian Non-Agricultural Employment in U.S.
1970 and 1975
(Thousands of Jobs)

	1970	1975	% Change 1970-1975
Total Non Ag. Wage & Salary	70,920	76,985	8.6
Manufacturing	19,349	18,347	-5.2
Mining	623	745	19.6
Construction	3,536	3,457	2.2
Transportation	4,504	4,498	-0.1
Trade	15,040	16,947	12.7
Wholesale	3,816	4,177	9.5
Retail	11,225	12,771	13.8
Finance, Ins., R.E.	3,687	4,223	14.5
Services	11,621	13,995	20.4
Government	12,561	14,773	17.6
Federal	2,731	2,748	0.6
State	2,678	3,207	19.8
Local	7,214	8,818	22.2

Source: "Employment and Earnings" Volume 22, Number 9, March 1976, U.S. Department of Labor Bureau Statistics.

Note: These data have not been adjusted for residence and multiple job holders.

same time period. The national increases occurred in coal mining and oil and gas extraction. Increases in these industries also occurred in Montana with 1,000 new jobs, but the 1975 recession and depressed copper prices led to a 900 loss in primary metal mining. National emphasis on Montana's coal should lead to strong growth in the mining sector when copper prices pick up and employment in metal mining stabilizes.

- Contract Construction -

This industry has been relatively unstable during Montana's recent history with large fluctuations in employment, a result of major construction projects (i.e., Libby Dam project, Minuteman Missiles project, etc.). Contract construction employment has increased 12.7% in Montana as compared with the 2.2% increase for the Nation during the 1970 to 1975 time period.

- Transportation, Communication, and Public Utilities -

During the past few years, employment in railroad transportation has declined slightly with other transportation, communications, and public utilities increasing. Nationwide, the industry decreased slightly compared with Montana's 10.3% increase during the 1970 to 1975 period. The operation of coal-fired generating plants in Montana as well as the export of coal should provide continued employment expansion.

- Finance, Insurance, and Real Estate -

This industry's employment has increased 25.9% during the 1970 to 1975 period compared with the Nation's increase of 14.5%. Inflationary increases in health, construction and auto repairs and speculation on land appear to be the primary factors affecting growth in this industry group.

- Trade -

Wholesale and retail trade employment in Montana has increased 23.7% as compared with the Nation's 12.7% increase during the 1970 to 1975 period. The wholesale trade sector employment has increased 21.4% during the 1970 to 1975 period, and retail trade employment increased 24.3%. Retail trade is one of Montana's largest industries employing 47,600 workers in 1975.

- Services -

The services industry employment in Montana has increased 33.2% during the 1970 to 1975 period as compared with the Nation's increase of 20.4%. The service sector is Montana's fastest growing industry and employed 44,900 workers in 1975, representing 18.7% of total non-agricultural wage and salary employment. Medical and other health services account for nearly one-third of this industry's employment.

- Government -

Government accounted for more jobs in 1975 than any other industry in Montana, with 64,900. Federal government employment increased 19.3% in Montana compared with the national increase of a mere 0.6%. State government employment in Montana has not increased as fast as the national average, with an increase of 16.4% here compared with 19.8% for the nation. Local Government was the second fastest growing sector in Montana with an increase of 28.8%, slightly ahead of the national increase of 22.2%. It should be noted that 60% of the new jobs in government were added in 1975 alone, mainly the result of Federally sponsored public employment programs directed at the recession.

- Agriculture -

Because data on agricultural employment are not compiled by the U.S. Department of Labor, comparisons between Montana and national employment in agriculture are not possible. Montana data gathered by the Employment Security Division indicate a decline in agricultural employment from 36,100 in 1970 to 34,300 in 1975, a decline of 5.0% Unlike the other industrial sectors, employment in agriculture is not a very good indicator of total economic activity. Because of technological changes and productivity increases in agriculture, employment has steadily declined throughout this century, while agricultural production has increased markedly. A much better measure of economic activity in the agricultural sector can be obtained by using the total cash receipts from farm marketings and government payments.

During the 1970-1974 period there was a 36.5% growth in Montana agricultural cash receipts (in constant dollars of purchasing power). National growth in farm marketings and government payments during this same period was an identical 36.5%.

Table 2.3 presents a detailed picture of the 1970-1975 change in employment broken down by primary and derivative industries. These figures show a slight decrease in primary employment, from 85,100 in 1970 to 83,500 in 1975.

The greatest increase in employment, about 41,100 workers, occurred in the derivative industries. These jobs are, of course, important to Montana and provide needed employment opportunities for many persons. But, this growth should be interpreted with caution. A disproportionate share of the increase in derivative jobs may be directly or indirectly associated with the recent prosperity in agriculture. Whether or not this propserity will continue is open to question.

Table 2.3
Civilian Employment in Montana, 1970 and 1975
(Thousands of Jobs)

Industry	1970	1975	Change 1970-75
Primary	85.1	83.5	-1.6
Agriculture	36.1	34.3	-1.8
Mining	6.6	6.7	+0.1
Metal mining	4.0	3.1	-0.9
Coal mining, oil and gas extraction and non-metallic mining	2.6	3.6	+1.0
Manufacturing	23.9	22.2	-1.7
Food and kindred products	4.3	3.7	-0.6
Lumber and wood products	8.2	8.2	0
Primary metal refining	4.7	3.3	-1.4
Other manufacturing	6.7	7.0	+0.3
Railroads	6.6	6.1	-0.5
Federal Government	11.9	14.2	+2.3
Derivative	180.6	221.7	+41.1
Nonrail transportation, communications, utilities	10.8	13.1	+2.3
Contract construction	11.0	12.4	+1.4
Wholesale and retail trade	48.1	59.5	+11.4
Services and finance	41.8	55.1	+13.3
State and local government	40.7	50.7	+10.0
All other employment	28.2	30.9	+2.7
Total employment	262.7	303.1	+39.5

Source: Montana Department of Labor and Industry, Employment Security Division, Montana Employment and Labor Force and unpublished data.

Note: These data have not been adjusted for residence and multiple job holders.

MONTANA CIVILIAN LABOR FORCE

SEASONALLY ADJUSTED
(in Thousands)

Date	Civilian Labor Force	EMPLOYMENT			UNEMPLOYMENT			Labor Management Dispute 2/
		Total	Non-Ag	Agri.	Total	Percent 1/ Montana	Percent 1/ U. S.	
1974								
January	315.1	293.2	257.5	35.7	21.9	7.0	5.2	.1
February	314.2	294.7	260.4	34.3	19.5	6.2	5.2	*
March	317.1	297.2	261.8	35.4	19.9	6.3	5.1	*
April	318.6	297.2	265.1	32.1	21.4	6.7	5.0	*
May	325.5	303.9	267.3	36.6	21.6	6.6	5.2	4.0
June	327.8	304.1	267.9	36.2	23.7	7.2	5.2	2.0
July	326.6	304.6	266.5	38.1	22.0	6.7	5.3	*
August	319.2	298.4	267.0	31.4	20.8	6.5	5.4	.2
September	322.6	301.7	270.5	31.2	20.9	6.5	5.8	*
October	327.3	305.6	268.1	37.5	21.7	6.6	6.0	*
November	328.5	305.5	268.7	36.8	23.0	7.0	6.6	.1
December	328.2	305.1	269.1	36.0	23.1	7.0	7.2	*
1974 Avg.	322.6	301.0	265.9	35.1	21.6	6.7	5.6	.5
1975								
January	326.0	303.0	265.8	37.2	23.0	7.0	8.2	*
February	326.4	300.0	263.3	36.7	26.4	8.1	8.2	.1
March	326.0	300.0	265.2	34.8	26.0	8.0	8.7	.3
April	323.2	295.6	262.7	32.9	27.6	8.5	8.9	.2
May	325.6	299.0	265.1	33.9	26.6	8.2	9.2	.1
June	327.4	299.7	267.7	32.0	27.7	8.4	8.6	.2
July	327.8	301.3	268.9	32.4	26.5	8.1	8.4	.2
August	329.3	302.9	270.2	32.7	26.4	8.0	8.4	*
September	333.1	306.3	273.7	32.6	26.8	8.1	8.3	.3
October	336.4	308.4	273.1	35.3	28.0	8.3	8.6	.3
November	341.0	313.0	275.4	37.6	28.0	8.2	8.3	.2
December	343.5	314.0	274.6	39.4	29.5	8.6	8.3	.2
1975 Avg.	330.5	303.6	268.8	34.8	26.9	8.1	8.5	.1
1976								
January	342.7	315.0	274.6	40.4	27.7	8.1	7.8	*
February	343.0	316.7	275.2	41.5	26.3	7.7	7.6	
March	342.0	313.8	273.9	39.9	28.2	8.2	7.5	
April	339.4	309.9	272.1	37.8	29.5	8.7	7.5	

1/ Computed from whole (unrounded) numbers.
2/ Non-additive - included in total employment.
* Under 50.

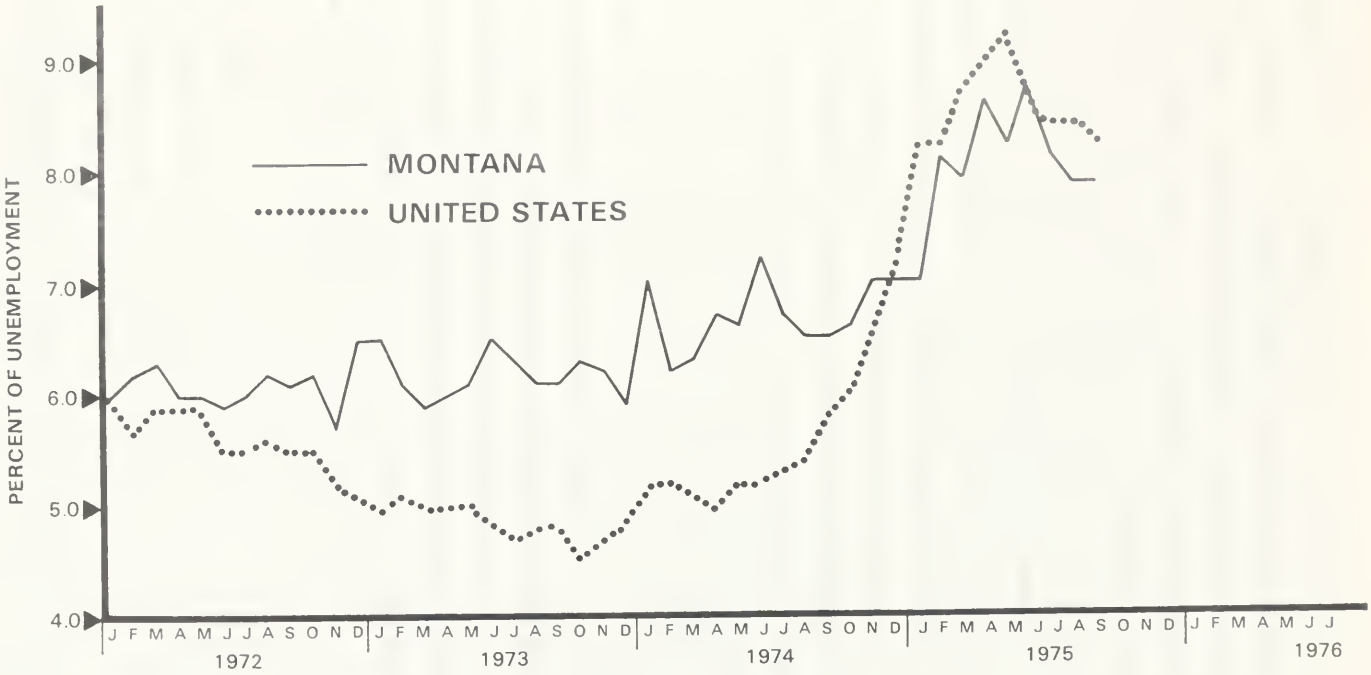
Series began January 1970.
Revised to 1975 Benchmarks.
Current month preliminary.

NOTE: Seasonally adjusted data are provided for statistical analysis only and should not be confused with actual numbers.

FIGURE 5

UNEMPLOYMENT RATES, MONTANA AND THE UNITED STATES, 1972-1975

(SEASONALLY ADJUSTED)


PERCENT OF UNEMPLOYMENT
9.0
8.0
7.0
6.0
5.0
4.0
MONTANA
UNITED STATES
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J
1972
1973
1974
1975
1976

SOURCE: Montana Department of Labor and Industry
Montana Employment and Labor Force, March 1972 and July 1975

The 1970-75 increases in employment are not illusionary. Nor do the increases in derivative employment contradict the slow growth in the primary industries as previously indicated. But, aside from the coal mining industry, conditions in the primary industries do not appear to have changed from the sixties and the remarkable growth in the derivative industries may not continue at the same rate in the future.

A recent study by the U.S. Department of Commerce examined the correlation between individual state economies and the economy of the U.S. as a whole and concluded that Montana was the third most insensitive to national business cycles.[3]

Among Montana's primary industries, the cyclical behavior of wood products and metal mining and refining correspond closely to national business cycles. These industries represent about 1/5 of total primary employment (see Table 2.3). Also, these jobs are not spread across the state, but are concentrated in a few areas; primarily near Butte and elsewhere in western Montana. Thus, the effects of the national business cycle tend to be limited to these regions.

Figure 5 represents the monthly unemployment rates (seasonally adjusted) for Montana and the United States from January 1972 to February 1976. Notice that the graph for the U.S. turned upward about the middle of 1974 and then accelerated toward the end of the year and into 1975. This graph clearly depicts the recent national business recession. Montana, on the other hand, experienced only a slight increase during the last half of 1974, with significant increases after the first of the year. This suggests that the impact of the recession on the Montana

[3]Robert B. Bretzfelder, "Sensitivity of State and Regional Income to National Business Cycles," Survey of Current Business, Vol. 53, No. 4 (April 1973), pp. 22-34.

labor market did not begin until early in 1975.

The data in Figure 5 also show that Montana's unemployment, which had averaged 12 percent higher than the national average since 1957 and has been higher in each of the last 11 years, was 5 percent lower for 1975, 8.1 percent for Montana compared to 8.5 percent nationally. This indicates that the recent recession was not as strongly felt in Montana, which again suggests that economic developments in Montana tend to bear little relation to national business cycles. In December 1975, the Montana unemployment rate again surpassed the national rate, indicating that the recovery in Montana is lagging the national recovery.

In summary, current economic data indicate that Montana's position relative to the nation has changed from one of slower growth in the 1950-1970 period to one of faster growth since 1970. This turnaround is consistently reflected in comparisons of changes in population, employment, and incomes. The export base theory of economics described earlier directs one to explain the changes in Montana's economy in terms of changes in its primary industries. Among the state's primary industries, agriculture has clearly experienced the greatest growth since 1970. Montana's overall economy is not totally dependent on agriculture, but during the 1970-1975 period Montana's economic good fortune appears to have derived to a significant extent from agricultural prosperity.

THE FUTURE

Predictions of future economic events are always very risky. Laymen, and particularly the press, are often inclined to seek a single description of the future, and they are generally not able to question the validity of economic statements.

Economic projections are essentially "if-then" statements consisting of both underlying assumptions, the "if" part, and conclusions, the "then" part. An example of an economic projection is "if the price of copper rises (the assumption), then the Anaconda Company will hire more workers (the conclusion)." The important point to notice is that a projection does not, by itself, say anything about the likelihood of the event. In the previous example, the assumption "if the price of copper rises" does not imply that a rise in prices will occur.

If an economist goes further and makes an assessment of the realism of the underlying assumptions, then he may use his projection as a prediction of future events, or more technically as a forecast. In reviewing economic statements the public must assess both the logical basis for the projection, whether the "then" follows logically from the "if", as well as the probability of the "if" occurring. Since the economics of the real world is not simple, a number of alternative assumptions with varying probabilities must be discussed and the corresponding outcomes analyzed. A good example of this multiple forecasting technique is the discussion of future employment in Montana later in this report.

This lengthy discourse on the nature of economic projections and their correct interpretation is not mere rhetoric. The following pages present projections which have some very important implications for Montana's economy. It is crucial that the rules are carefully spelled out in advance so there will be no confusion in interpretation of the projected figures.

Employment in 1980

Three projections for the number of Montanans employed in 1980 are presented in Table 3.1. The Montana Economic Study projections are essentially based on the assumption that the relatively poor economic conditions of the 1950-1968 period, which are thoroughly documented in Chapter 1, will continue throughout the 70's. The Employment Security Division's Montana Manpower -- 1980 projections are based on 1957-1973 employment data which include parts of both economic periods examined earlier. Finally, a set of projections was developed by this office strictly for comparison purposes using 1970-1974 employment data. This last projection is based on an assumption that the recent favorable economic trends will continue. It should be noted that none of these projections include any impact from future employment in coal mining or associated energy or industrial developments.

Employment projections do not tell the whole story. They provide a rough idea of the number of jobs which will be available in Montana, given various assumptions about the future, but they say nothing concerning the number of persons available for work. The postwar baby crop has grown out of diapers and is entering the labor force in increasing numbers. Based on the 1970 Census, roughly 151,000 young Montanans will enter the prime employment age groups between 1970 and 1980. At the

Table 3.1

MONTANA EMPLOYMENT PROJECTIONS, 1980
(Thousands of Workers)

Source	Base Years for Projection	April 1970	Projected 1980	Difference	Percent Change
1.	1950-1968	254.1	277.6	23.5	9.2
2.	1957-1973	255.6	298.2	42.6	16.7
3.	1970-1974	255.6	342.9	87.3	34.2

Sources:

1. Montana Economic Study, Bureau of Business and Economic Research, University of Montana, 1970, Vol. 2, Chapter 4, p. 4.14. The figures have been adjusted from the published figures to eliminate the double counting due to multiple job holders and to reconcile them with the 1970 Census data which were not available when the study was published.

2. Montana Manpower -- 1980, Montana Department of Labor and Industry, Employment Security Division, September 1974, p. 20. The figures have been adjusted from the published figures to eliminate the double counting due to multiple job holders and to provide April 1970 employment data which would be comparable to 1970 Census data.

3. Based on unpublished employment projections by industry sector using a linear regression least squares formula on Annual Statewide Labor Force data provided by the Employment Security Division. Adjustment was made to eliminate the double counting due to multiple job holders.

same time, only about 55,000 persons will reach retirement age. This phenomenon is often called the "natural increase" in the labor force and implies that Montana must have growing employment opportunities simply to provide jobs for those persons already living here.

A rough idea of the potential labor market pressures may be obtained by "aging" the 1970 population forward and applying projected labor force participation rates to derive the expected number of persons in the labor force.[1]

The potential labor force for 1980 based on Montana's 1970 population is projected in the upper portion of Table 3.2. These figures show the labor force growing from 268,800 in 1970 to 321,900 in 1980. This increase is due not only to an excess of young persons, but also to the projected changes in the participation of certain age-sex cohorts--for example, the increased propensity of women to look for jobs outside the home. Assuming a 6 percent unemployment rate, roughly equal to Montana's experience between 1970 and 1974, persons available for work will number 302,600 in 1980. Note that this 1980 labor force projection does not account for any inmigration of labor force participants which may have occurred since 1970 (recall that population estimates indicate 19,000 inmigrants to Montana between 1970 and 1974).

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[1]Age-sex participation rates for 1980 have been projected in the following source: Denis F. Johnston, "The U.S. Labor Force: Projections to 1990," Monthly Labor Review, Vol. 96, No. 7 (July 1973), pp. 3-14. Montana's participation rates have often been lower than the national average. Consequently, the published figures have been adjusted downward in light of the participation rates reported in U.S. Bureau of the Census, Census of Population: 1970, Detailed Characteristics, Final Report PC(1)-D28, Montana, U.S. Government Printing Office, Washington, D.C., 1972, Table 164.

The potential labor force and persons available for work may be used to place the employment projections made earlier in proper perspective. The employment projections discussed earlier are presented again in the center portion of Table 3.2. The bottom portion of Table 3.2 relates the supply and demand. Using the three projections there is a possible range of from 25,000 too few jobs for the "natural increase" in the labor force to as many as 40,300 excess jobs.

The use of "too few" or "excess" jobs above may be misleading without further explanation. Employment is probably the greatest single factor determining the movement of workers between regions. If the low projection turns out to be correct, then by 1980 it is projected that a net 25,000 workers will have left the state in search of work. This would result in a net outmigration from the state of roughly 65,000 to 70,000 persons. At the other extreme, if the high projection is correct, then by 1980 it is projected that a net 40,300 workers will have been attracted to the state to fill jobs. This would result in a net inmigration into the state of roughly 110,000 persons.

Polzin -- 151,000 addition to employment age groups; 55,000 retirement age -- net 96,000 increase 1974 Census Est. Projected to 1980 -- 132,000 births; 75,000 deaths -- net 57,000 increase (difference reflects '70-'74 birthrate experience compared to '55-'65 birthrates).

Indigenous Growth to 1980 -- 750,000

Low Projection	750,000	High	750,000
	-68,000		+110,000
	682,000		860,000

Projection from 74 Est. (1.43%/yr. or 15.26%/decade) 800,000

Table 3.2

SUPPLY AND DEMAND FOR EMPLOYMENT

MONTANA, 1980

(Thousands of Workers)

Demand	1980
Civilian Labor Force (No Net Migration)	321.9
Unemployment (Nominal Rate 6%)	19.3
Persons Needing Work	302.6

Supply	1980
Low Projection Based on 1950-1968 Trend	277.6
Middle Projection Based on 1957-1973 Trend	298.2
High Projection Based on 1970-1974 Trend	342.9

Difference - Job Excess (Deficit)	1980
Low	-25.0
Medium	- 4.4
High	+40.3

Coal Development

As stated before, the above projections of 1980 employment do not include any jobs that may result from coal mining or related developments. The Employment Security Division report Montana Manpower - 1980, previously cited, also includes an analysis of the employment impact of three coal development scenarios. These scenarios range from a 1980 development of only those coal resources necessary to meet regional and previously committed demand to 1980 developments necessary to meet a national energy crisis. Employment from this range of development possibilities is between 5,620 and 10,340 jobs. A second study by the Bureau of Business and Economic Research, authors of the Montana Economic Study, predicts increased employment resulting from coal development to be from 5,000 to 7,500 in 1980.[2]

Summary

The employment projections presented above are based on three different historical periods which relate closely to three possible assumptions about the future. The most pessimistic view, quoting from the Montana Economic Study, assumes that "job opportunities in Montana will continue to grow at a sluggish pace...because of further rough sledding for the state's agricultural sector." On the other hand, the optimistic view, represented by the 1970-1974 period, assumes a continued high level of agricultural production in the state and relatively high levels of price inflation in agricultural commodities nationally. The Employment Security Division projections which span both periods, can be

[2]Water Use and Coal Development in Eastern Montana, Paul E. Polzin, Bureau of Business and Economic Research, University of Montana, 1974, pp. 114-126.

assumed to portray a more balanced view of our agricultural future. The reason for this concern with agriculture is that it is Montana's largest primary industry, and the modified export base theory of economic development discussed earlier relates development in the total economy to changes in the primary sector.

Coal mining is a second primary industry expected to greatly influence Montana's future economy. Although not included in the projections, the roughly 5,000 jobs that can be expected from even minimal coal development will have a profound influence throughout the Montana economy.

III

An Overview of The Montana Futures Process

Introduction

The Montana Futures Process (MFP) is a computer simulation routine designed to serve as a quantitative tool in the appraisal of the economic impact of a wide range of exogenous events. MFP represents an initial effort for Montana state government to develop an automated data base and methodology for preparing baseline as well as conditional forecasts of regional activity. MFP combines trend as well as export base analysis into a complementary whole, thus avoiding the divergent forecasts of employment and population that commonly result from their separate application. This combination provides the ability to simulate the effects of off-trend changes while taking into account the long-term growth pattern.

The overall approach is by no means unique within the development of regional analysis. The method has been employed in various forms by state and regional modelers for many years. The main advantage of MFP lies in its ability to produce at low cost, in terms of both time and resources, projections of the impacts of economic events for which there is no historical precedent. But because of the high degree of uncertainty

involved, the output generated by the framework must be interpreted with discretion. As with any other information source, the outputs of MFP must be considered only a part of the analysis rather than the end product. The numbers supplied by MFP are no more accurate than the scenarios provided, and the error inherent in the model structure.

In order to discuss the nature of MFP the paper has been divided into several chapters and sections. The present chapter includes a brief summary of the general nature and history of the alternative futures approach to modeling. Since numerous states have adopted this framework, a review of the structure of one state model (Arizona) is provided for comparison. Chapter Two and the associated appendices, represent a more detailed discussion of the components of MFP. This chapter focuses on the methodology used in constructing the economic and demographic submodels. Chapter Three illustrates uses of the system, and contains some discussion of possible pitfalls. Emphasis is placed on the difficulties encountered when making long-range impact projections.

The Alternative Futures Approach

Over the last few years interest in empirical analysis at the regional level has grown sharply. Numerous states have recently constructed, or have begun construction of regional growth models. While the exact methodology varies somewhat from state to state, all the systems share several fundamental attributes. For example, all alternative futures systems contain economic and demographic submodels used to project or

simulate the employment and population effects of a specified change in activity. As a result, all of the models link employment and population in some manner.

Typically the systems are driven by either trend or simulated values for basic employment activity. The derivative values are calculated from some form of export base construct, usually an input-output (I/O) framework or a basic - nonbasic regression equation. The resultant employment level is compared with the natural growth population level flowing from the demographic model. Migration is then a function of the growth in population relative to the growth in employment.

The basic rationale behind the construction of such models is to provide improved estimates of population and employment under varying sets of circumstances. As a consequence, such models, MFP included, are general rather than specific in nature. That is, the models include numerous sectors and parameters to allow a high degree of simulation flexibility. For those states which have chosen this course, the emphasis has shifted away from point estimates to sets of estimates contingent upon a group of scenarios. The approach is justified on the grounds that traditional forecasting models cannot be used to project the impacts of events which represent significant shifts from past trends. Given the difficulty in simulating such phenomena, it is not at all surprising that numerous Western states have opted for the alternative futures - simulation methodology. It is in those very states that energy related issues are of prime importance. Such issues cannot be adequately modeled using

normal econometric procedures. However, it should be remembered that the advantages of the alternative futures approach are closely linked to the reliability of the scenarios. For similar reasons, the usefulness of such models is contingent upon being able to attach at least a subjective probability to each scenario. Also, the framework implies that the futures are realistic from a political standpoint, i.e., that individual states can influence their own destiny to the extent implied by the scenario. In short, while the procedure has a simulation orientation, the desired result from a policy position still remains a forecast.

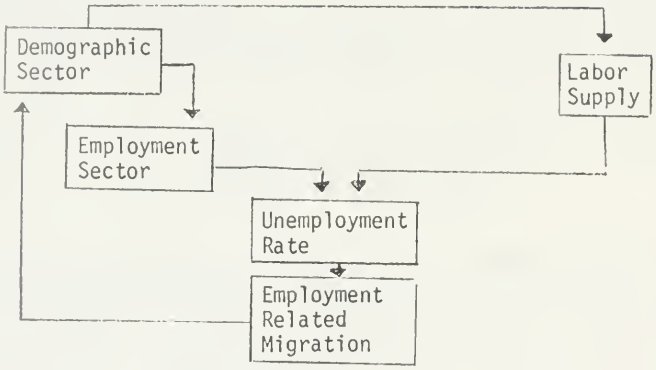
A Comparison of State Models

As mentioned earlier, numerous states have constructed or are in the process of constructing simulation routines. To date all of the states in both the Four Corners and Old West Commission Regions have chosen this course. In addition, Alaska and Minnesota have developed similar models. The technique has also been employed at the regional level as well as at the city level. As a result of this rapid diffusion the origin of the idea is difficult to trace. However, it appears that the first attempts to implement the concept were made simultaneously in Utah and San Diego. Prior to their efforts the initial conceptual form of the system can probably be attributed to Battelle Columbus Laboratories, although the basic idea of relating employment and population predates regional analysis itself. Since the intent of the present section is not to survey the literature, but rather to explain the nature of MFP in light of other similar efforts, the following discussion will focus on a comparison of MFP and the current version of the Arizona Trade Off Model

(ATOM-3). However, given the similarity between ATOM and the Utah and Wyoming versions, the following comments would hold for all three models. The logic of ATOM is shown in Diagram 1.

Diagram 1

ATOM MODEL STRUCTURE



In ATOM, the economic submodel consists of what can be termed a partial input-output (I/O) framework. The demand for outputs of service and trade sectors is split into two portions. The first consists of the outputs directly supplied to other industrial users; the other part is supplied to consumers. The first portion, the "interindustry demand" is represented by a rectangular matrix. The logic of the approach follows: Basic employment is estimated using trend analysis or scenario. The interindustry portion of demand for derivative industries is calculated using the I/O matrix. The other portion, the "induced demand" is estimated using regressions on population and employment aggregates. The employment of the industries is summed and compared with the supply of labor resulting from the application of fixed participation rates to the survived population from the demographic model, a cohort survival

system. An implied unemployment rate is calculated and is used to trigger migration if the value falls outside of a specified range. If migration is necessary, the model adds to population using industry specific age and sex migration propensities. The new population level is used to recalculate "derivative demand" resulting in a new employment level. This process continues until the implied unemployment rate falls within the specified range.

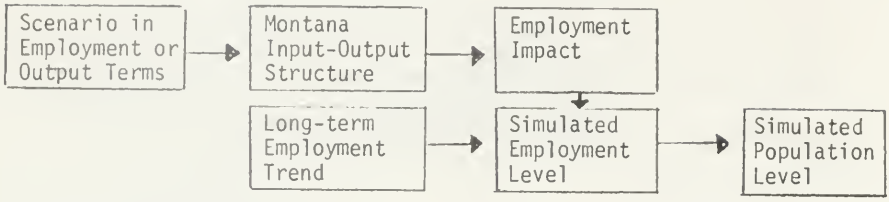
This approach is indicative of nearly all alternative futures systems. While the method is intuitively appealing in the sense that an attempt is made to relate employment and population changes, certain problems exist. One fundamental problem is that in the real world, the relationship between the basic and nonbasic employment changes over time.

ATOM'S structure does not include this major effect which over the past few years has resulted in a marked change in employment composition. However, even if the omission were rectified, it is unlikely that the I/O used with ATOM would be valid given the rather unsystematic construction and the use of the Polenske - Rogers trade model. An added problem is the use of fixed particiapation rates. The validation of a model which does not address either basic/nonbasic shifts or changing participation rates over a period which has been dominated by just these same factors brings forth many questions as to its usefulness.

In light of these problems, the MFP approach is technically different although the conceptual properties remain essentially the same. The structure of MFP is depicted below.

Diagram 2

MFP Design



MFP incorporates a complete I/O framework which eliminates the need for the iterative procedure in ATOM. Also, it should be pointed out that the long-term employment trends are not run through the I/O matrix. The I/O Model is used only to analyze the employment effects of a scenario, which are then combined with the baseline level. Another point of departure with ATOM is found in the employment population link. MFP uses simple population multipliers and stresses changes in female participation rates. This effect is certainly the most difficult and the most important factor to estimate. More attention is devoted to this issue later.

In short, MFP is somewhat simpler than ATOM. This is entirely deliberate. The reasons for this are discussed in the next chapter.

Model Construction

The Montana Futures Process system is composed of several submodels including an input-output model, an employment trend model, and a model linking population and employment. The purpose of this chapter is to discuss how the above submodels were constructed and to explain the reasons why the models are linked in the present fashion.

EMPLOYMENT TREND MODEL

Baseline, or simple time-trend projections, were made for twenty-eight employment sectors, at the state and labor market area (LMA) levels.[1] In order to produce the LMA series, county level two digit, employment data (Bureau of Economic Analysis series 1965-1974) were aggregated to the LMA level. No attempt was made to link the series to national projections since the forecasts available at a useful level of industrial aggregation are generally time trends themselves.

INPUT-OUTPUT MODEL

An input-output model was constructed from secondary data sources to analyze the employment linkages within the state.[2] After a state

[1]See Appendix I for the employment aggregation scheme and the LMA map.

[2]The I/O table is included in Appendix II.

industrial aggregation scheme (thirty-five producing sectors) was determined, transactions data for the state were derived in the following manner. Montana specific wage and salary data (Employment Security 202 series) for 1972 were used to scale the 1967 national transactions table at the 484 industrial sector level to provide a nonspatial Montana version of the national table. The nonspatial table was then aggregated to the thirty-five sector level. The row sums by industry were calculated and compared with known output levels from 1972 census receipts data, i.e., census of mining, manufacturing, trade etc. If the sum of requirements by the industries and components of final demand exceeded the output level, it was assumed that the residual constituted a net import. Imports of this sector were allocated to the various industrial users on the basis of their resource utilization. Conversely, if the row total was less than the output level, it was assumed that the difference represented a net export. A matrix of direct requirements was then calculated. The principal household linkages in the construction, service and trade sectors were included in the direct requirements matrix and the resulting matrix was then inverted, producing the total requirements form. This approach allowed for intra-regional service and trade effects while constraining linkages between the household and other industrial sectors. Such an approach appears to be justifiable in a relatively small, undiversified state such as Montana. Since the principal interest of the project was in terms of employment changes rather than output changes, the I/O grid was reconstructed in employment terms. This transformation was based on past output-employment ratios weighted by national productivity projections from the Bureau of Labor Statistics. The approach, in crude form, allows for technological change to occur over time, resulting in improved employment simulations.

Substate Allocation Procedure

Since the I/O matrix was constructed at the state level, in order to simulate substate developments it was necessary to allocate the total employment changes associated with a specific scenario to the substate level. The allocation of derivative employment with the exception of wholesale trade was made on the basis of the change in basic activity. In other words, the derivative employment was allocated to the LMA where the development occurred. Wholesale trade was allocated on the basis of its existing distribution.

Given the tendency for one region (LMA) to affect another, an attempt was made to incorporate intrastate spatial linkages. Market areas for principal cities (over 2,000 population) were calculated using a simple gravity flow form known as Reiley's Law. Given this trade area map and county service and trade location quotients, a service and trade allocation matrix was constructed.

The approach allows for a development in one LMA to affect service and trade employment in another by taking into account distance and historical market development inertia. Implicit within this approach is the assumption that individual personal consumption patterns are similar from county to county. The matrix, in effect, normalizes consumption expenditures but allows for LMA location quotients to vary. For example, if a region's trade location quotient is two and the adjoining region's quotient is one-half, then fifty percent of the second region's trade flows to the first, assuming that the second region is within the influence area of the first. Simply stated, the service and trade reallocation

matrix distributes trade on an apriori basis using an established but admittedly simple marketing model. This approach is used because without such a procedure, service and trade effects would be distributed uniformly and fail to incorporate the effect of historical market center development.

POPULATION-EMPLOYMENT MODEL

After the employment effects of a scenario are calculated and allocated to the LMA level, the employment changes are merged with the baseline employment trends by industry. The employment levels are summed producing a new employment level. Simply stated, this new employment level is a combination of trend employment plus or minus the employment changes associated with the impact submodel. The specific link between population and employment is very simple, utilizing employment-population multipliers, i.e., population divided by employment. The ratios are calculated individually for each LMA on the basis of LMA employment and population data, i.e., BEA and Census estimates. The mechanics of this link are developed in greater detail later.

A Comment On Method

All models are simplifications regardless of the number of variables or the amount of data included. Unfortunately, the temptation exists to equate model size (i.e., operational complexity) with usefulness. In the case of MFP the overriding principle during the construction of the model was that of simplicity. The major points of departure from the

ATOM framework were largely a result of this approach to modeling. These differences fall largely into two categories, baseline projection technique and employment-population links.

Baseline Projection Technique and Impacts

The simple time trend technique employed in MFP was the result of several factors. During the development of the system it became apparent that users were interested in long-term simulations of employment and population. This demand became a major consideration. In light of the rapidly changing mix between basic and nonbasic employment it was decided to separate the trend part of employment from the impact component. For example, total employment in Montana has grown seventeen percent in the last ten years. Over the same time period basic employment declined by nearly ten percent. Since the I/O model is little more than an improved representation of the export base concept at a particular point in time, any long-term employment estimates generated by such a framework would seriously underestimate total employment. In Montana, it is anticipated that this problem will persist in the future.

However, this argument should in no way be interpreted as meaning that the I/O approach to impact analysis is invalid. An I/O table provides considerable insight into the employment and output effects of a development but only in a static sense. For this reason the I/O approach was adopted but used only for estimating the impacts of large scale developments. In Montana the main use of the system will be energy related simulation. Admittedly, problems exist in secondary techniques, but as refinement is

made in the energy sectors, these problems become less important. Primary data collection is currently underway for the energy related sectors.

Population and Employment

The most difficult facet of the alternative futures approach is found in the link between employment and population. During the initial phases of model development it was believed that a cohort model could be reasonably linked with the economic portion. Consequently a cohort-survival system was constructed for each of the fourteen labor market areas. This model is a modified survival process in the sense that several adjustments are made for subpopulations that appear to exhibit atypical behavior. As an example, the Indian population is treated separately from the general population and given higher birth rates. Furthermore, an adjustment is made to account for the transitory behavior of military personnel and college students. This routine calculates the natural population change for the state, given a set of Montana specific vital rates. (Additional details of the model are included in Appendix III.)

The approach was later abandoned although the separate model has proved useful on its own. This abandonment was the result of several major problems. The greatest conceptual difficulty is determining exactly which group of individuals will fill which types of jobs. A general lack of age, sex, skill, race, and industry area-specific data precludes this form of linkage. As a result, a less detailed approach was employed.

In this effort several different types of employment-population multipliers were calculated. Originally, time trend estimates were made for each LMA. As mentioned earlier these multipliers were derived on the basis of Census population estimates and BEA employment levels. It was soon realized that this approach embodied several major faults. First of all, the employment series (county data) was of relatively short duration. Consequently, any long-term extrapolation of the mulipliers produced unrealistic results, namely, multipliers of far less than two. The data, in this simple form, indicated that in several LMA's the aggregate participation rate would be much greater than fifty percent, a most unlikely event. In light of this uncertainty, additional methods of determining more reasonable multipliers were explored. Attention was focused on two major factors: the increase in female employment and the age structure of the population.

Much of the increase in the aggregate participation rate can be accounted for by age alone. On the basis of the cohort model it was determined that roughly fifty percent of the increase from 1970 to 1975 could be explained by this factor. When the increase in women's participation rates is included nearly all of the change can be explained. The yearly increase in female participation rates at the state level was calculated on the basis of Census and Employment Security estimates. When this rate of increase is applied uniformly between female cohort groups, the resulting labor force estimates are nearly identical with the yearly population multipliers derived from BEA and Census estimates. However, the cohort model indicates that the rate of increase in the aggregate rate will decline somewhat in the future as the effects of the "baby boom" end. With the assumption that the 1970-1975 female rate of increase

will continue, the approach yields population multipliers which seem to be more plausible. Admittedly, the approach has its limitations since the method explicitly assumes that male rates will not increase, and the rate of increase in female participation will hold in the future. The increasing employment of females is probably contingent upon a continued growth of nonbasic employment opportunities.

The technique discussed is used only to provide LMA baseline multipliers. In contrast another type of multiplier is used for the impact evaluation component. In the second approach, employment is divided in two categories, basic and nonbasic. The basic category includes agricultural, mining, manufacturing, rail and federal government employment. The nonbasic component is defined simply as all other forms of employment. Regressions of state population on basic and nonbasic employment were run. As expected the basic coefficient was much higher...2.99 basic vs. 1.06 nonbasic. This difference is hypothesised to be the result of several factors. First of all most of the basic workers are male. Secondly, a related issue, most of the nonbasic workers are female. This same dependency notion is reinforced by census age, sex, and marital status data. Given the fact MFP will largely be used for simulating the effects of basic activity, the use of the baseline aggregate population multipliers would have been inappropriate, and would probably underestimate population impact. As a result, the basic and nonbasic multipliers are used in conjunction with the I/O system, i.e., applied to both the direct and indirect employment effects by type. These estimates are then merged with the baseline employment levels yielding the total employment level.

Although the use of two types of multipliers may seem to be redundant, a fairly strong argument could be advanced that the two techniques are based on the same phenomenon, namely the increase in female nonbasic employment. For similar reasons it could be hypothesized that the basic and nonbasic multipliers will gradually converge and that the aggregate multiplier will stabilize. In short the division is retained since no estimates are available concerning changes in the sex distribution or industrial mix of employment in the future. Consequently, it is assumed that females will largely be employed in the nonbasic category, and that the growth in total nonbasic employment will continue.

Summary

It is the author's opinion that the sophisticated employment-population link in ATOM is entirely inappropriate for Montana given available data. Furthermore, this link does not address the main issue, that of the female participation rate. MFP attempts to address this issue while keeping the link operationally manageable. Obviously problems exist in the MFP procedure. The uses of MFP, in light of such limitations, are discussed in Chapter 3.

Uses & Limitations

As indicated in previous sections the MFP system is designed to be a general model applicable to a number of questions. The purpose of this chapter is to highlight projects already completed and to discuss other situations where the model can be applied. In addition, the following includes a description of potential misuses of MFP. Finally, a program for future improvements is outlined.

When the construction of the MFP system was proposed, the Montana Department of Natural Resources (DNR) requested assistance in producing municipal population numbers in the coal impact areas analyzed in the Yellowstone River Basin Study. The resulting project represented the first application of the MFP system. Given DNR's time schedule, a simplified version of MFP was utilized, including very simple population multipliers based on trend and cross sectional regressions. The major conceptual issue was the use of the model for producing impact estimates at the municipal level. As described earlier, MFP provides multi-county area estimates, a level of aggregation unsuitable for water planning. The solution was a combined use of professional judgement and the model. DNR utilized planning personnel to allocate the numbers of direct workers provided by their scenarios to towns on the basis of their knowledge of the area. MFP was used to calculate the derivative employment and population impacts created by the workers in each town. The derivative employment and population was allocated among towns using another judgmental scheme. Given three levels of development for some twelve towns for two different

years, a total of seventy-two scenarios were developed. The structure of MFP allowed the calculation to be completed in one run at low cost. Though the above analysis was a small part of DNR's total program, MFP provided a capability which saved considerable time. Another result of this application was increased recognition of the importance of well developed scenarios as inputs to the process.

A later application of MFP was more straightforward. The State Lands Department requested population and employment estimates associated with a new coal mine. This type of request had been frequently received before the model was built, and it is anticipated that in the future the model will be frequently used to answer similar questions.

Identifying future applications is probably as difficult as forecasting the future itself. However, certain areas of concern are certain to be investigated using the model structure. Construction of reasonable energy development scenarios for the state is underway at this point. The resulting alternative futures will be simulated with MFP and included in the economic report to the Governor prepared for the beginning of the next legislative session. It is anticipated that those involved with energy policy at the state level will use additional alternative futures to explore the implications of different options for the state.

Uses for MFP can be divided into two types. The first type -- alternative futures and impacts -- are frequently demanded by state agencies and an educational process is anticipated to acquaint these users with the technique. The other category includes those applications which

utilize parts of the system. Considerable information was gathered for the model and such data will be useful in other departments' analyses. For example, the I/O table is helpful in exploring the nature of linkages in the Montana economy. The demographic submodel can be used for applications such as changes in school age population for educational authorities. In addition, the assembly of an employment and population data base will provide quickly accessible information for any studies.

As is natural with any general model, the possibility of misuse of the system exists. Most of the problems result from the attitude that the model provides "truth" forever. The simple fact remains that most effects in Montana are not included in MFP and will never exist in the system. Certain questions do not lend themselves to modeling. A typical example is a request for highly disaggregated spatial distributions of population. At a certain point judgement from those who know the area is preferable. Another area of abuse involves the interpretation of the industry detail of the model. Though some survey work is anticipated for the energy sectors, most of the I/O is secondary and therefore somewhat suspect as far as detailed differentiation between industries is concerned.

The final category of abuse concerns the time interval that is simulated. Certain facts are evident in the business of predicting the future. The farther one goes from the present, the less the relationships of the past apply. Base case trends and I/O matrices based on recent data have little applicability to the year 2020. Where is the cutoff then? The answer to the question depends on the particular study and the

importance of the model results to the decision itself. The important point to remember is simply that the expected size of the error grows very quickly over time.

Obviously the problems that can arise are not independent of the situation. The best way to utilize the model is through good communication between the person posing the questions and the analyst who is familiar with the model. MFP is not a routine anyone can call up and utilize without assistance. This situation is healthy since it forces both user and modeler to frame their questions clearly in order to derive reasonable answers.

A final note is required concerning the use of MFP, or any model for that matter. Despite the great computational ability of MFP, it is essentially very simple. Thus, it should never serve as the focus of analysis. As a tool to complete standard calculations quickly, it is valuable. However, if applied in the absence of sound analysis of both the inputs and the outputs of the system, it can become merely an efficient paper waster. Problem identification, analysis, decision and implementation are all processes which should receive much more thought than the model itself.

The beginning of the report stated that MFP is an initial attempt at a state modeling program for Montana. Considerable progress has been made and its usefulness can now be tested by the requests which arise in the future. If the concept proves helpful, there are certain short range additions which will improve the quality of the outputs. A list follows:

(1) Limited survey of energy sectors in the I/O table.

(2) Completion of a more comprehensive employment data base utilizing more current Employment Security data.

(3) Inclusion of more detailed analysis of base case trends.

(4) Inclusion of an income index to explore the result of changing employment structure.

(5) Analysis of manufacturers survey data to improve the trade sectors of the I/O.

(6) Involvement in a regional process of discussing the implications of decisions which have multi-state effects.

Longer run improvements are certainly a function of the usefulness of the concept in Montana. A primary I/O table might better detail the linkages in Montana. More detailed industry and labor force analysis also would improve outputs. However, the best program to improve model outputs will be a process to improve the inputs: i.e., systematic construction of scenarios which make technological and political sense.

A P P E N D I X I

Employment Scheme

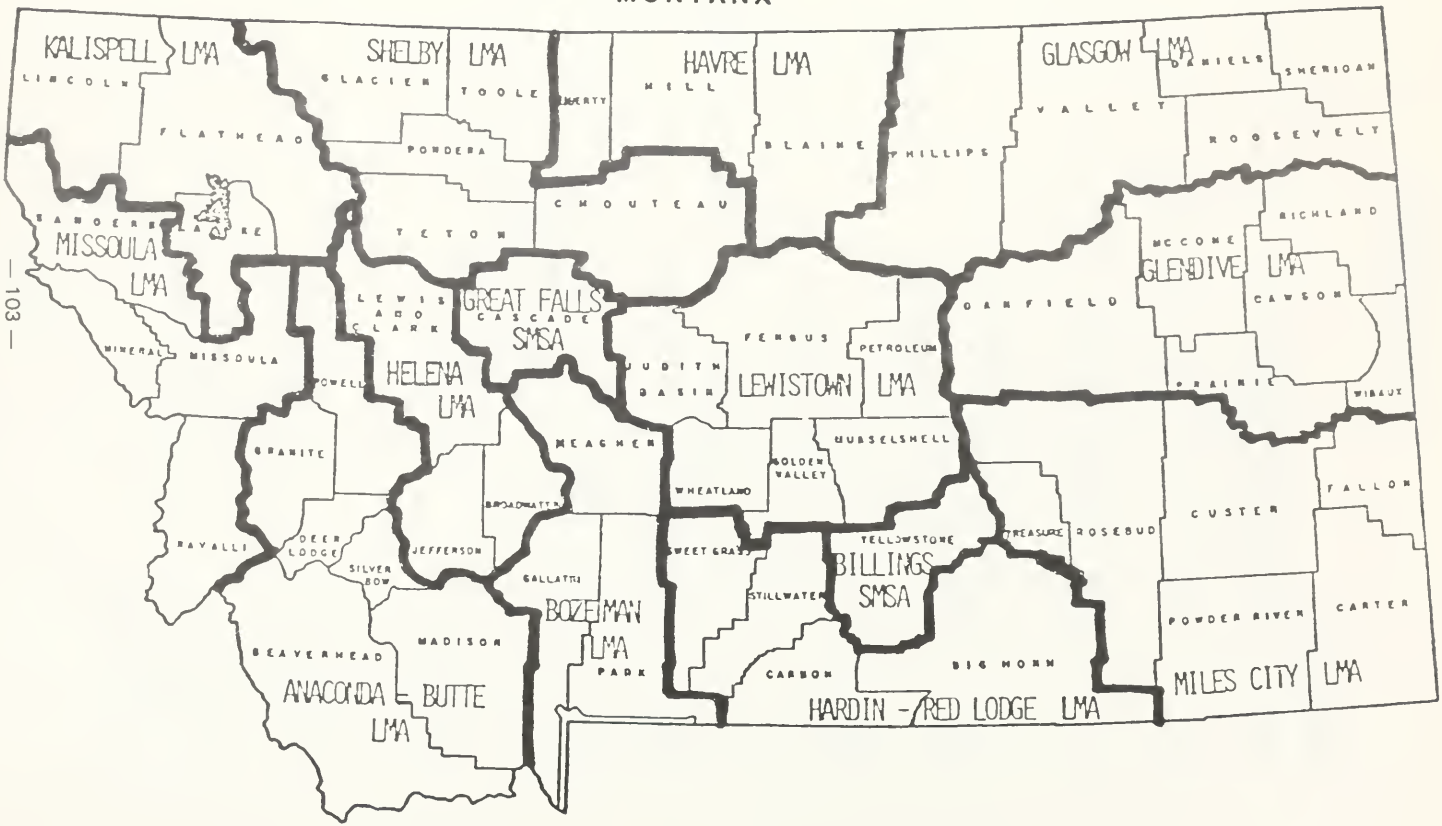
Employment Sectors

Farm Proprietors
Non Farm Proprietors
Ag Services & Forestry
Mining Excluding Fuels
Coal Mining
Petroleum & Natural Gas
Construction
Food & Kindred Products
Printing & Publishing
Chemicals
Lumber & Furniture
Petroleum Refining
Primary Metals
Fabricated Metals
Stone, Clay and Glass
Other Manufacturing
Railroad
Motor Freight
Communications
Utilities
Wholesale Trade
Retail Trade
Finance, Insurance, Real Estate
Personal Service
Business Service
Professional Service
Federal Government
State Government

LABOR MARKET AREAS

IN

MONTANA



MFP EMPLOYMENT MODEL
(for one year)

Variable Names

S_{ixj} Input simulation values
i = 1 to 38 industries
j = 1 to 14 LMA's

SS_i Simulation values summed to state level
i = 1 to 38 industries

O_i Output employment conversion factor
i = 1 to 38 industries

IO_{ixi} Total requirements input output matrix
i = 21 to 38 industries

R_{ixk} Aggregation scheme
i = 1 to 38 industries
k = 1 to 28 industries

$BASE_{kxj}$ Base case employment
k = 1 to 28 industries
j = 1 to 14 LMA's

P_j Population multiplier
i = 1 to 14 LMA's

Z_{jxj} LMA service sector reallocation
j = 1 to 14

A - F Intermediate steps

MODEL STRUCTURE
(for one year)

$$SS_i = \sum_{j=1}^{14} S_{ij} \qquad i = 1 \text{ to } 38$$

$$A_i = O_i \times SS_i \qquad i = 1 \text{ to } 38$$

$$B_i = \sum_{j=1}^{38} IO_{ji} A_j \qquad i = 1 \text{ to } 38$$

$$C_i = B_i / O_i \qquad i = 1 \text{ to } 38$$

$$D_k = \sum_{i=1}^{38} C_i R_{ik} \qquad k = 1 \text{ to } 28$$

$$E_{kj} = D_k \times (\text{Base}_{kj} / \sum_{n=1}^{14} \text{Base}_{kn}) \qquad \begin{matrix} j = 1 \text{ to } 14 \\ k = 2, 4, 5, 6, 8, 9, 10, 11, 12, 13, \\ 14, 15, 16, 17, 18, 19, 20, 21 \end{matrix}$$

$$F_j = \sum_{k \neq 1, 3, 7, 22\text{-}28} E_{kj} \qquad j = 1 \text{ to } 14$$

$$E_{kj} = D_k \times \frac{F_j}{\sum_{r=1}^{14} Fr} \qquad \begin{matrix} k = 1, 3, 7 \\ j = 1 \text{ to } 14 \end{matrix}$$

$$E_{kj} = \sum_{n=1}^{14} \left(D_k \times \frac{Fn}{\sum_{r=1}^{14} Fr}\right) Z_{nj} \qquad \begin{matrix} k = 22 \text{ to } 26 \\ j = 1 \text{ to } 14 \end{matrix}$$

$$E_{28\,j} = .1119 \times \sum_{k=1}^{25} E_{kj} \qquad j = 1 \text{ to } 14$$

$$\text{Final employment}_{kj} = E_{kj} + \text{BASE}_{kj} \qquad \begin{matrix} k = 1 \text{ to } 28 \\ j = 1 \text{ to } 14 \end{matrix}$$

$$\text{Total employment}_j = \sum_{k=1}^{28} \text{Final employment}_{kj} \qquad j = 1 \text{ to } 14$$

$$\text{Population} = P_j \times \text{Total employment}_j \qquad j = 1 \text{ to } 14$$

A P P E N D I X II

I/O Analysis

I.O. Sectors

1	Dairy
2	Livestock
3	Grains
4	Other Crops
5	Agricultural Services & Forestry
6	Copper
7	Coal
8	Petroleum & Natural Gas
9	Other Mining
10	Construction
11	Meat Processing
12	Dairy Processing
13	Grain Processing
14	Other Food Processing
15	Printing & Publishing
16	Chemicals
17	Logging and Saw Mills
18	Millwork & Other Finished Wood Products
19	Petroleum Refining
20	Primary Metals
21	Fabricated Metals
22	Stone, Clay and Glass
23	Other Manufacturing
24	Railroad
25	Motor Freight
26	Communications
27	Utilities
28	Wholesale Trade
29	Retail Trade
30	Finance Insurance & Real Estate
31	Personal Services
32	Business Services
33	Professional Services
34	Federal Enterprise
35	State Enterprises
36	Households

DERIVATION OF IO TABLE - SECONDARY PROCEDURE

Variables

N - National IO table - 484 X 484 sectors

$A^{(2)}_{484}$ - Aggregation vector - 484 to 206 sectors

W_{206} - Montana wages and salaries - 1972 at 3 digit level

$A^{(2)}$ _ Aggregate vector from 3 digit level to 206 sectors

$A^{(3)}$ _ Aggregation vector - 206 to 51 sectors

O - Montana output - 1972 for 51 sectors

Z - Identity matrix - 35 X 35

J - Transactions table for Montana

K - Direct requirements table

M - Total requirements matrix

C, D, E, F, G, H, I, L - are intermediate matrices

Q is the fraction of value added which is employee compensation

$$C_{ij} = \sum_{k:\, A^{(2)}_k = i} \; \sum_{l:\, A^{(2)}_L = j} W_{kl} \qquad i, j = 1, 206$$

$$D_{ij} = C_{ij} / \sum_{l=1}^{206} C_{lj} \qquad i = 1, 206$$

$$E_i = \sum_{k:\, A^{(2)}_k = i} W_k \qquad i = 1, 206$$

$$F_i = E_i / \Sigma_{k:\, A^{(3)}_k = A^{(3)}_i} E_k$$

$$G_{ij} = \sum_{k:\, A^{(3)}_k = i} \; \sum_{l:\, A^{(3)}_l = j} F_l \, D_{kl} \qquad \begin{array}{l} i = 1 \text{ to } 45 \\ j = 1 \text{ to } 51 \end{array}$$

$$H_{ij} = O_j \; G_{ij} \qquad \begin{array}{l} i = 1 \text{ to } 45 \\ j = 1 \text{ to } 51 \end{array}$$

for $i = 1$ to 36:

$$I_i = \sum_{j=1}^{51} H_{ij}$$

IF $I_i < O_i$: $J_{c49} = O_i - I_i$ and $J_{ij} = H_{ij}$ for $j = 1$ to 51, $j \neq 49$

IF $I_i > O_i$: $J_{ij} = H_{ij} \; \frac{O_i}{I_i}$ $\qquad j = 1$ to 51

$$J_{37j} = \sum_{\substack{i:\, I_i > O_i \\ 1 < i < 36}} H_{ij} \left(1 - {}^{O_i}/_{I_i}\right) \qquad j = 1 \text{ to } 51$$

$$J_{ij} = H_{ij} \qquad \begin{array}{l} i = 38 \text{ to } 45 \\ j = 1 \text{ to } 51 \end{array}$$

$$K_{ij} = J_{ij} \Big/ \sum_{l=1}^{45} J_{li}$$

$$L_{cj} = K_{ij} \qquad \begin{array}{l} \text{for } i = 1 \text{ to } 38 \\ \text{for } j = 1 \text{ to } 35 \end{array}$$

$$L_{36j} = Q_j \; J_{45j} \qquad \text{for } j = 1 \text{ to } 35$$

$$L_{i36} = J_{i46} \qquad \text{for } i = 1 \text{ to } 35$$

$$M = (Z - L)^{-1}$$

SECTOR 1 DAIRY

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	1.00507	0.0	0.0
LIVESTOCK	0.0	0.0	0.04095	1.31	0.08922
GRAINS	5.54	0.31146	0.36211	2.23	0.15183
OTHER CROPS	0.00	0.00001	0.02076	0.79	0.05359
AG SERVICE,FORES	0.10	0.00586	0.01317	0.00	0.00000
COPPER	0.0	0.0	0.00076	0.0	0.0
COAL	0.0	0.0	0.00170	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01337	0.0	0.0
OTHER MINING	0.00	0.00003	0.00377	0.0	0.0
CONSTRUCTION	0.14	0.00769	0.01904	0.0	0.0
MEAT PROCESS	0.0	0.0	0.01392	0.0	0.0
DAIRY PROCESS	0.0	0.0	0.00852	10.08	0.68567
GRAIN PROCESS	1.74	0.09761	0.11882	0.0	0.0
OTHER FOOD PROC	0.14	0.00805	0.02968	0.0	0.0
PRINT,PUBLISH	0.00	0.00009	0.00230	0.0	0.0
CHEMICALS	0.02	0.00102	0.01581	0.0	0.0
LOG AND SAW	0.0	0.0	0.00436	0.0	0.0
MILLWORK,OTHER	0.00	0.00009	0.00497	0.0	0.0
PETR.REFINE	0.08	0.00457	0.03091	0.0	0.0
PRIMARY METAL	0.00	0.00005	0.00570	0.0	0.0
FABRIC METAL	0.02	0.00104	0.00270	0.0	0.0
STONE,CLAY,GLA	0.01	0.00073	0.00431	0.0	0.0
OTHER MANUFAC.	0.02	0.00134	0.02484	0.0	0.0
RAILROAD TRANS	0.10	0.00581	0.01655	0.0	0.0
MOTOR FREIGHT	0.48	0.02683	0.05113	0.0	0.0
COMMUNICATIONS	0.06	0.00326	0.01699	0.0	0.0
UTILITIES	0.09	0.00491	0.03511	0.0	0.0
WHOLESALE TRADE	0.25	0.01406	0.05063	0.0	0.0
RETAIL TRADE	0.28	0.01584	0.08140	0.0	0.0
FIRE	0.49	0.02771	0.16228	0.0	0.0
PERSONAL SERVICE	0.13	0.00717	0.02757	0.0	0.0
BUSINESS,REPAIR	0.06	0.00316	0.03640	0.0	0.0
PROFESS.SERVICE	0.16	0.00887	0.03634	0.0	0.0
FED.ENTER.	0.00	0.00006	0.00014	0.0	0.0
STATE LOC ENTER	0.00	0.00003	0.00063	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	0.74	0.04130	0.0	0.0	0.0
DUMMY 1	0.03	0.00165	0.00983	0.0	0.0
DUMMY 2	0.00	0.00003	0.00280	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	7.11	0.39967	0.30561	0.0	0.0
CONSUMPTION EXP.				0.28	0.01935
CAPITAL EQPT				0.0	0.0
INVENTORY CHANGE				0.00	0.00034
EXPORTS				0.0	0.0
FED GOV				0.0	0.0
STATE AND LOCAL				0.0	0.0
OUTPUT	17.80				

SECTOR 2 LIVESTOCK

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	1.31	0.00283	0.00773	0.0	0.0
LIVESTOCK	98.72	0.21298	1.29899	98.72	0.22580
GRAINS	23.74	0.05122	0.08098	18.79	0.04299
OTHER CROPS	136.14	0.29371	0.39257	4.52	0.01035
AG SERVICE,FORES	1.10	0.00236	0.01683	0.00	0.00000
COPPER	0.0	0.0	0.00062	0.0	0.0
COAL	0.0	0.0	0.00154	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01372	0.0	0.0
OTHER MINING	0.01	0.00003	0.00491	0.0	0.0
CONSTRUCTION	2.38	0.00513	0.01471	0.0	0.0
MEAT PROCESS	0.0	0.0	0.01172	56.87	0.13007
DAIRY PROCESS	0.0	0.0	0.00665	0.01	0.00002
GRAIN PROCESS	3.54	0.00763	0.02185	0.0	0.0
OTHER FOOD PROC	0.40	0.00087	0.01369	0.01	0.00003
PRINT,PUBLISH	0.03	0.00006	0.00191	0.0	0.0
CHEMICALS	0.47	0.00102	0.02143	0.00	0.00000
LOG AND SAW	0.0	0.0	0.00376	0.0	0.0
MILLWORK,OTHER	0.04	0.00009	0.00468	0.0	0.0
PETR.REFINE	2.31	0.00498	0.03205	0.0	0.0
PRIMARY METAL	0.02	0.00004	0.00466	0.0	0.0
FABRIC METAL	0.09	0.00019	0.00148	0.0	0.0
STONE,CLAY,GLA	0.05	0.00011	0.00347	0.0	0.0
OTHER MANUFAC.	0.40	0.00087	0.02020	0.17	0.00038
RAILROAD TRANS	2.31	0.00497	0.01472	0.0	0.0
MOTOR FREIGHT	5.12	0.01104	0.03276	0.0	0.0
COMMUNICATIONS	1.07	0.00230	0.01469	0.0	0.0
UTILITIES	1.07	0.00230	0.03416	0.0	0.0
WHOLESALE TRADE	8.49	0.01831	0.05356	0.0	0.0
RETAIL TRADE	5.35	0.01154	0.07417	0.0	0.0
FIRE	10.38	0.02240	0.15984	0.0	0.0
PERSONAL SERVICE	0.11	0.00024	0.01741	0.03	0.00007
BUSINESS,REPAIR	1.29	0.00278	0.02998	0.0	0.0
PROFESS.SERVICE	1.70	0.00367	0.02852	0.0	0.0
FED.ENTER.	0.02	0.00003	0.00269	0.0	0.0
STATE LOC ENTER	0.01	0.00003	0.00053	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	39.98	0.08626	0.0	0.0	0.0
DUMMY 1	0.34	0.00074	0.00785	0.0	0.0
DUMMY 2	0.01	0.00003	0.00240	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	117.44	0.25339	0.26417	0.0	0.0
CONSUMPTION EXP.				0.48	0.00109
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				2.96	0.00683
EXPORTS				254.58	0.58231
FED GOV				0.03	0.00006
STATE AND LOCAL				0.01	0.00001
OUTPUT	463.50				

SECTOR 3 GRAINS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	2.23	0.00791	0.01038	5.54	0.02105
LIVESTOCK	18.79	0.06660	0.09871	23.74	0.09013
GRAINS	10.65	0.03775	1.05004	10.65	0.04045
OTHER CROPS	1.70	0.00602	0.04109	1.12	0.00425
AG SERVICE,FORES	4.53	0.01605	0.01909	0.0	0.0
COPPER	0.0	0.0	0.00079	0.0	0.0
COAL	0.0	0.0	0.00160	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01907	0.0	0.0
OTHER MINING	1.40	0.00498	0.00783	0.0	0.0
CONSTRUCTION	3.11	0.01104	0.01936	0.0	0.0
MEAT PROCESS	0.0	0.0	0.01226	0.02	0.00006
DAIRY PROCESS	0.0	0.0	0.00680	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.00585	10.94	0.04152
OTHER FOOD PROC	0.0	0.0	0.01157	0.34	0.00130
PRINT,PUBLISH	0.03	0.00010	0.00230	0.0	0.0
CHEMICALS	7.07	0.02504	0.03324	0.00	0.00001
LOG AND SAW	0.0	0.0	0.00437	0.0	0.0
MILLWORK,OTHER	0.03	0.00010	0.00469	0.0	0.0
PETR.REFINE	8.38	0.02971	0.04683	0.0	0.0
PRIMARY METAL	0.01	0.00004	0.00592	0.0	0.0
FABRIC METAL	0.09	0.00030	0.00182	0.0	0.0
STONE,CLAY,GLA	0.13	0.00047	0.00377	0.0	0.0
OTHER MANUFAC.	1.66	0.00590	0.02549	0.0	0.0
RAILROAD TRANS	1.57	0.00555	0.01186	0.0	0.0
MOTOR FREIGHT	2.06	0.00729	0.02491	0.0	0.0
COMMUNICATIONS	0.76	0.00268	0.01541	0.0	0.0
UTILITIES	1.92	0.00680	0.03379	0.0	0.0
WHOLESALE TRADE	6.21	0.02200	0.04670	0.0	0.0
RETAIL TRADE	4.97	0.01760	0.07348	0.0	0.0
FIRE	31.01	0.10988	0.23415	0.0	0.0
PERSONAL SERVICE	0.11	0.00038	0.01875	0.19	0.00073
BUSINESS,REPAIR	7.18	0.02543	0.04997	0.0	0.0
PROFESS.SERVICE	0.41	0.00144	0.02752	0.0	0.0
FED.ENTER.	0.01	0.00005	0.00357	0.05	0.00020
STATE LOC ENTER	0.0	0.0	0.00052	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	37.35	0.13235	0.0	0.0	0.0
DUMMY 1	0.32	0.00115	0.00894	0.0	0.0
DUMMY 2	0.01	0.00003	0.00318	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	128.50	0.45536	0.27547	0.0	0.0
CONSUMPTION EXP.				0.73	0.00277
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				11.14	0.04231
EXPORTS				201.63	0.76551
FED GOV				-2.76	-0.01047
STATE AND LOCAL				0.05	0.00018
OUTPUT	282.20				

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.79	0.00470	0.00670	0.00	0.00000
LIVESTOCK	4.52	0.02699	0.04506	136.14	0.86776
GRAINS	1.12	0.00668	0.01810	1.70	0.01084
OTHER CROPS	2.38	0.01418	1.03402	2.38	0.01515
AG SERVICE,FORES	5.02	0.02994	0.03208	0.71	0.00455
COPPER	0.0	0.0	0.00070	0.0	0.0
COAL	0.01	0.00004	0.00206	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01782	0.0	0.0
OTHER MINING	1.19	0.00708	0.00997	0.0	0.0
CONSTRUCTION	0.44	0.00265	0.00982	0.03	0.00020
MEAT PROCESS	0.0	0.0	0.01170	7.51	0.04787
DAIRY PROCESS	0.0	0.0	0.00666	0.11	0.00072
GRAIN PROCESS	2.34	0.01398	0.02134	0.05	0.00029
OTHER FOOD PROC	0.15	0.00090	0.01321	3.77	0.02405
PRINT,PUBLISH	0.00	0.00002	0.00186	0.0	0.0
CHEMICALS	5.88	0.03510	0.04277	0.07	0.00042
LOG AND SAW	0.0	0.0	0.00397	0.0	0.0
MILLWORK,OTHER	0.18	0.00106	0.00527	0.0	0.0
PETR.REFINE	4.47	0.02665	0.04142	0.0	0.0
PRIMARY METAL	0.00	0.00000	0.00521	0.0	0.0
FABRIC METAL	0.02	0.00015	0.00139	0.0	0.0
STONE,CLAY,GLA	0.28	0.00166	0.00427	0.0	0.0
OTHER MANUFAC.	0.58	0.00344	0.02177	0.07	0.00044
RAILROAD TRANS	1.08	0.00645	0.01268	0.01	0.00005
MOTOR FREIGHT	1.05	0.00628	0.02195	0.01	0.00003
COMMUNICATIONS	0.33	0.00195	0.01281	0.0	0.0
UTILITIES	2.94	0.01752	0.04566	0.0	0.0
WHOLESALE TRADE	3.47	0.02068	0.04273	0.0	0.0
RETAIL TRADE	3.23	0.01929	0.07096	0.0	0.0
FIRE	10.36	0.06181	0.16736	0.01	0.00007
PERSONAL SERVICE	0.01	0.00007	0.01705	0.0	0.0
BUSINESS,REPAIR	2.36	0.01407	0.03420	0.0	0.0
PROFESS.SERVICE	0.21	0.00125	0.02462	0.24	0.00155
FED.ENTER.	0.00	0.00001	0.00274	0.70	0.00449
STATE LOC ENTER	0.00	0.00000	0.00048	0.00	0.00001
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	24.34	0.14521	0.0	0.0	0.0
DUMMY 1	0.13	0.00075	0.00736	0.20	0.00126
DUMMY 2	0.00	0.00000	0.00242	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	88.73	0.52944	0.26627	0.0	0.0
CONSUMPTION EXP.				12.21	0.07785
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.27	0.00173
EXPORTS				0.0	0.0
FED GOV				-9.49	-0.06050
STATE AND LOCAL				0.19	0.00118
OUTPUT	167.60				

SECTOR 5 AG SERVICE,FORES

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.00	0.00000	0.00303	0.10	0.00499
LIVESTOCK	0.00	0.00001	0.01673	1.10	0.05237
GRAINS	0.0	0.0	0.01043	4.53	0.21662
OTHER CROPS	0.71	0.06606	0.07860	5.02	0.24000
AG SERVICE,FORES	0.02	0.00203	1.00563	0.02	0.00105
COPPER	0.0	0.0	0.00080	0.0	0.0
COAL	0.00	0.00018	0.00176	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.00903	0.0	0.0
OTHER MINING	0.00	0.00000	0.00192	0.0	0.0
CONSTRUCTION	0.00	0.00000	0.00626	0.55	0.02638
MEAT PROCESS	0.0	0.0	0.01905	0.0	0.0
DAIRY PROCESS	0.0	0.0	0.01074	0.0	0.0
GRAIN PROCESS	0.19	0.01754	0.02665	0.0	0.0
OTHER FOOD PROC	0.02	0.00143	0.02046	0.04	0.00201
PRINT,PUBLISH	0.00	0.00003	0.00245	0.0	0.0
CHEMICALS	0.03	0.00281	0.01060	0.00	0.00004
LOG AND SAW	0.0	0.0	0.00885	8.30	0.39669
MILLWORK,OTHER	0.06	0.00585	0.01290	0.0	0.0
PETR.REFINE	0.03	0.00232	0.01972	0.0	0.0
PRIMARY METAL	0.00	0.00000	0.00601	0.0	0.0
FABRIC METAL	0.01	0.00116	0.00239	0.0	0.0
STONE,CLAY,GLA	0.00	0.00009	0.00264	0.0	0.0
OTHER MANUFAC.	0.27	0.02470	0.05022	0.01	0.00066
RAILROAD TRANS	0.04	0.00355	0.01061	0.02	0.00077
MOTOR FREIGHT	0.08	0.00761	0.02684	0.00	0.00011
COMMUNICATIONS	0.00	0.00000	0.01376	0.0	0.0
UTILITIES	0.01	0.00102	0.03094	0.0	0.0
WHOLESALE TRADE	0.08	0.00722	0.03712	0.22	0.01070
RETAIL TRADE	0.04	0.00364	0.08408	0.03	0.00143
FIRE	0.39	0.03584	0.17192	0.06	0.00284
PERSONAL SERVICE	0.00	0.00000	0.02624	0.04	0.00205
BUSINESS,REPAIR	0.00	0.00018	0.02260	0.0	0.0
PROFESS.SERVICE	0.00	0.00000	0.03359	0.0	0.0
FED.ENTER.	0.00	0.00006	0.00302	0.0	0.0
STATE LOC ENTER	0.0	0.0	0.00068	0.01	0.00024
DIRECT IMPORT	0.18	0.01676	0.0	0.0	0.0
TRANSFER IMPORTS	0.99	0.09151	0.0	0.0	0.0
DUMMY 1	0.07	0.00608	0.01267	0.00	0.00000
DUMMY 2	0.00	0.00023	0.00267	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	7.58	0.70209	0.43279	0.0	0.0
CONSUMPTION EXP.				2.19	0.10462
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.00	0.00000
EXPORTS				0.0	0.0
FED GOV				-1.66	-0.07939
STATE AND LOCAL				0.33	0.01582
OUTPUT	10.80				

SECTOR 6 'COPPER

	REQUIREMENTS TRANSACTIONS	REQUIREMENTS DIRECT	REQUIREMENTS TOTAL	SALES TRANSACTIONS	SALES FRACTION
DAIRY	0.0	0.0	0.00445	0.0	0.0
LIVESTOCK	0.0	0.0	0.02319	0.0	0.0
GRAINS	0.0	0.0	0.00580	0.0	0.0
OTHER CROPS	0.0	0.0	0.01732	0.0	0.0
AG SERVICE,FORES	0.0	0.0	0.00285	0.0	0.0
COPPER	20.12	0.16757	1.21184	20.12	0.17545
COAL	0.05	0.00044	0.00508	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01789	0.0	0.0
OTHER MINING	1.78	0.01484	0.02867	0.03	0.00028
CONSTRUCTION	0.93	0.00772	0.02144	0.0	0.0
MEAT PROCESS	0.0	0.0	0.03206	0.0	0.0
DAIRY PROCESS	0.0	0.0	0.01806	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.00838	0.0	0.0
OTHER FOOD PROC	0.0	0.0	0.02946	0.0	0.0
PRINT,PUBLISH	0.01	0.00005	0.00413	0.0	0.0
CHEMICALS	1.50	0.01245	0.02462	0.0	0.0
LOG AND SAW	1.02	0.00847	0.02585	0.0	0.0
MILLWORK,OTHER	0.0	0.0	0.01052	0.0	0.0
PETR.REFINE	0.47	0.00394	0.03212	0.0	0.0
PRIMARY METAL	4.66	0.03883	0.07948	48.50	0.42285
FABRIC METAL	0.05	0.00039	0.00263	0.0	0.0
STONE,CLAY,GLA	0.38	0.00316	0.00916	0.0	0.0
OTHER MANUFAC.	2.46	0.02046	0.06778	0.0	0.0
RAILROAD TRANS	0.84	0.00701	0.02077	0.0	0.0
MOTOR FREIGHT	0.37	0.00305	0.03306	0.0	0.0
COMMUNICATIONS	0.40	0.00336	0.02719	0.0	0.0
UTILITIES	3.91	0.03255	0.10380	0.0	0.0
WHOLESALE TRADE	1.19	0.00987	0.05976	0.0	0.0
RETAIL TRADE	0.25	0.00204	0.13807	0.0	0.0
FIRE	5.05	0.04208	0.27518	0.0	0.0
PERSONAL SERVICE	0.12	0.00097	0.04525	0.0	0.0
BUSINESS,REPAIR	0.80	0.00664	0.04358	0.0	0.0
PROFESS.SERVICE	0.63	0.00526	0.06413	0.0	0.0
FED.ENTER.	0.06	0.00053	0.00559	0.0	0.0
STATE LOC ENTER	0.0	0.0	0.00115	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	11.43	0.09514	0.0	0.0	0.0
DUMMY 1	0.56	0.00467	0.01688	0.0	0.0
DUMMY 2	0.05	0.00044	0.00458	0.0	0.0
DUMMY 3	0.53	0.00438	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	60.50	0.50372	0.74457	0.0	0.0
CONSUMPTION EXP.				0.0	0.0
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.77	0.00671
EXPORTS				45.27	0.39469
FED GOV				0.00	0.00002
STATE AND LOCAL				0.0	0.0
OUTPUT	120.10				

SECTOR 7 COAL

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00448	0.0	0.0
LIVESTOCK	0.0	0.0	0.02317	0.0	0.0
GRAINS	0.0	0.0	0.00580	0.0	0.0
OTHER CROPS	0.0	0.0	0.01732	0.01	0.00038
AG SERVICE,FORES	0.0	0.0	0.00271	0.00	0.00012
COPPER	0.0	0.0	0.00488	0.05	0.00319
COAL	2.11	0.12652	1.14838	2.11	0.12798
PETROLM NAT. GAS	0.00	0.00027	0.01955	0.00	0.00014
OTHER MINING	0.01	0.00062	0.00603	0.08	0.00472
CONSTRUCTION	0.09	0.00549	0.01734	0.0	0.0
MEAT PROCESS	0.0	0.0	0.03203	0.04	0.00237
DAIRY PROCESS	0.0	0.0	0.01818	0.01	0.00075
GRAIN PROCESS	0.0	0.0	0.00834	0.03	0.00205
OTHER FOOD PROC	0.0	0.0	0.02963	0.05	0.00292
PRINT,PUBLISH	0.00	0.00001	0.00418	0.00	0.00003
CHEMICALS	0.08	0.00473	0.01382	0.09	0.00518
LOG AND SAW	0.12	0.00693	0.02168	0.03	0.00204
MILLWORK,OTHER	0.0	0.0	0.01027	0.02	0.00131
PETR.REFINE	0.19	0.01108	0.02947	0.06	0.00355
PRIMARY METAL	0.27	0.01589	0.03682	0.88	0.05346
FABRIC METAL	0.05	0.00312	0.00563	0.00	0.00008
STONE,CLAY,GLA	0.05	0.00324	0.00866	0.45	0.02700
OTHER MANUFAC.	0.29	0.01760	0.06271	0.83	0.05033
RAILROAD TRANS	0.08	0.00500	0.01623	0.00	0.00026
MOTOR FREIGHT	0.05	0.00319	0.03200	0.02	0.00120
COMMUNICATIONS	0.03	0.00161	0.02525	0.00	0.00022
UTILITIES	0.36	0.02175	0.08151	6.06	0.36711
WHOLESALE TRADE	0.26	0.01553	0.06485	0.0	0.0
RETAIL TRADE	0.03	0.00171	0.13854	0.0	0.0
FIRE	0.96	0.05778	0.29317	0.03	0.00168
PERSONAL SERVICE	0.01	0.00049	0.04433	0.03	0.00205
BUSINESS,REPAIR	0.22	0.01304	0.05051	0.02	0.00109
PROFESS.SERVICE	0.06	0.00332	0.06219	0.02	0.00145
FED.ENTER.	0.01	0.00030	0.00547	0.17	0.01014
STATE LOC ENTER	0.0	0.0	0.00115	0.21	0.01261
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	1.47	0.08816	0.0	0.0	0.0
DUMMY 1	0.04	0.00266	0.01422	0.0	0.0
DUMMY 2	0.01	0.00041	0.00466	0.0	0.0
DUMMY 3	0.10	0.00576	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	9.75	0.58376	0.75302	0.0	0.0
CONSUMPTION EXP.				0.40	0.02436
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.65	0.03967
EXPORTS				3.47	0.21032
FED GOV				0.52	0.03126
STATE AND LOCAL				0.16	0.00998
OUTPUT	16.70				

SECTOR 8 PETROLM NAT. GAS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00135	0.0	0.0
LIVESTOCK	0.0	0.0	0.00751	0.0	0.0
GRAINS	0.0	0.0	0.00179	0.0	0.0
OTHER CROPS	0.0	0.0	0.00551	0.0	0.0
AG SERVICE,FORES	0.0	0.0	0.00080	0.0	0.0
COPPER	0.0	0.0	0.00253	0.0	0.0
COAL	0.00	0.00002	0.00156	0.00	0.00005
PETROLM NAT. GAS	2.31	0.02141	1.02815	2.31	0.02328
OTHER MINING	0.0	0.0	0.00335	0.0	0.0
CONSTRUCTION	2.79	0.02582	0.03243	0.0	0.0
MEAT PROCESS	0.0	0.0	0.01041	0.0	0.0
DAIRY PROCESS	0.0	0.0	0.00548	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.00253	0.0	0.0
OTHER FOOD PROC	0.0	0.0	0.00892	0.0	0.0
PRINT,PUBLISH	0.00	0.00001	0.00219	0.0	0.0
CHEMICALS	0.30	0.00282	0.00599	0.02	0.00018
LOG AND SAW	0.0	0.0	0.00467	0.0	0.0
MILLWORK,OTHER	0.0	0.0	0.00428	0.0	0.0
PETR.REFINE	0.25	0.00229	0.01180	83.07	0.83644
PRIMARY METAL	0.94	0.00871	0.01907	0.0	0.0
FABRIC METAL	0.15	0.00142	0.00275	0.0	0.0
STONE,CLAY,GLA	0.61	0.00568	0.01019	0.0	0.0
OTHER MANUFAC.	1.18	0.01093	0.02612	0.0	0.0
RAILROAD TRANS	0.18	0.00169	0.00626	0.0	0.0
MOTOR FREIGHT	0.18	0.00170	0.01467	0.08	0.00081
COMMUNICATIONS	0.10	0.00090	0.01173	0.0	0.0
UTILITIES	1.13	0.01043	0.03318	12.37	0.12455
WHOLESALE TRADE	0.48	0.00442	0.02115	0.0	0.0
RETAIL TRADE	0.43	0.00395	0.04692	0.0	0.0
FIRE	18.80	0.17407	0.27804	0.0	0.0
PERSONAL SERVICE	0.03	0.00030	0.01643	0.0	0.0
BUSINESS,REPAIR	0.59	0.00549	0.02620	0.0	0.0
PROFESS.SERVICE	0.82	0.00759	0.02972	0.0	0.0
FED.ENTER.	0.02	0.00021	0.00383	0.0	0.0
STATE LOC ENTER	0.0	0.0	0.00041	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	7.57	0.07009	0.0	0.0	0.0
DUMMY 1	0.68	0.00631	0.01312	0.0	0.0
DUMMY 2	0.05	0.00045	0.00375	0.0	0.0
DUMMY 3	0.68	0.00627	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	67.72	0.62701	0.21535	0.0	0.0
CONSUMPTION EXP.				0.0	0.0
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				1.46	0.01470
EXPORTS				0.0	0.0
FED GOV				0.0	0.0
STATE AND LOCAL				0.0	0.0

OUTPUT 108.00

SECTOR 9 OTHER MINING

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00341	0.00	0.00001
LIVESTOCK	0.0	0.0	0.01786	0.01	0.00023
GRAINS	0.0	0.0	0.00444	1.40	0.02436
OTHER CROPS	0.0	0.0	0.01327	1.19	0.02060
AG SERVICE,FORES	0.0	0.0	0.00180	0.00	0.00000
COPPER	0.03	0.00057	0.00714	1.78	0.03091
COAL	0.08	0.00137	0.00535	0.01	0.00018
PETROLM NAT. GAS	0.0	0.0	0.02186	0.0	0.0
OTHER MINING	2.52	0.04420	1.05241	2.52	0.04363
CONSTRUCTION	0.40	0.00701	0.01738	3.35	0.05805
MEAT PROCESS	0.0	0.0	0.02469	0.01	0.00023
DAIRY PROCESS	0.0	0.0	0.01382	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.00638	0.03	0.00060
OTHER FOOD PROC	0.0	0.0	0.02255	0.00	0.00000
PRINT,PUBLISH	0.00	0.00002	0.00326	0.0	0.0
CHEMICALS	0.41	0.00725	0.01473	0.64	0.01114
LOG AND SAW	0.05	0.00087	0.00948	0.0	0.0
MILLWORK,OTHER	0.0	0.0	0.00803	0.0	0.0
PETR.REFINE	1.26	0.02206	0.04527	0.01	0.00019
PRIMARY METAL	1.48	0.02610	0.04852	42.00	0.72848
FABRIC METAL	0.07	0.00128	0.00314	0.00	0.00004
STONE,CLAY,GLA	0.06	0.00110	0.00521	3.40	0.05894
OTHER MANUFAC.	1.11	0.01943	0.05385	0.33	0.00578
RAILROAD TRANS	0.31	0.00537	0.01478	0.00	0.00005
MOTOR FREIGHT	0.19	0.00337	0.02760	0.01	0.00011
COMMUNICATIONS	0.07	0.00126	0.01970	0.0	0.0
UTILITIES	2.13	0.03738	0.09037	0.0	0.0
WHOLESALE TRADE	0.70	0.01233	0.04986	0.0	0.0
RETAIL TRADE	0.30	0.00527	0.10974	0.0	0.0
FIRE	3.05	0.05369	0.23386	0.01	0.00015
PERSONAL SERVICE	0.02	0.00040	0.02465	0.0	0.0
BUSINESS,REPAIR	1.15	0.02017	0.04975	0.0	0.0
PROFESS.SERVICE	0.19	0.00342	0.04844	0.0	0.0
FED.ENTER.	0.02	0.00037	0.00453	0.0	0.0
STATE LOC ENTER	0.0	0.0	0.00089	0.01	0.00019
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	5.58	0.09812	0.0	0.0	0.0
DUMMY 1	0.30	0.00523	0.01465	0.0	0.0
DUMMY 2	0.03	0.00045	0.00388	0.0	0.0
DUMMY 3	0.08	0.00141	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	35.31	0.62050	0.56816	0.0	0.0
CONSUMPTION EXP.				0.02	0.00035
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.37	0.00645
EXPORTS				0.0	0.0
FED GOV				0.65	0.01119
STATE AND LOCAL				-0.11	-0.00186
OUTPUT	56.90				

SECTOR 10 CONSTRUCTION

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIPY	0.0	0.0	0.00463	0.14	0.00034
LIVESTOCK	0.0	0.0	0.02423	2.38	0.00597
GRAINS	0.0	0.0	0.00603	3.11	0.00782
OTHER CROPS	0.03	0.00008	0.01821	0.44	0.00112
AG SERVICE,FORES	0.55	0.00138	0.00520	0.00	0.00000
COPPER	0.0	0.0	0.01052	0.93	0.00233
COAL	0.0	0.0	0.00395	0.09	0.00023
PETROLM NAT. GAS	0.0	0.0	0.02211	2.79	0.00700
OTHER MINING	3.35	0.00840	0.02435	0.40	0.00100
CONSTRUCTION	0.09	0.00021	1.01302	0.09	0.00021
MEAT PROCESS	0.0	0.0	0.03350	0.13	0.00032
DAIRY PROCESS	0.0	0.0	0.01877	0.09	0.00022
GRAIN PROCESS	0.0	0.0	0.00871	0.09	0.00023
OTHER FOOD PROC	0.0	0.0	0.03056	0.18	0.00046
PRINT,PUBLISH	0.00	0.00001	0.00413	0.11	0.00029
CHEMICALS	1.69	0.00425	0.01436	0.16	0.00039
LOG AND SAW	6.87	0.01725	0.04937	0.93	0.00234
MILLWORK,OTHER	14.45	0.03627	0.05242	0.37	0.00092
PETR.REFINE	7.81	0.01960	0.05052	2.62	0.00657
PRIMARY METAL	15.88	0.03986	0.07924	1.91	0.00479
FABRIC METAL	7.52	0.01887	0.02152	0.04	0.00009
STONE,CLAY,GLA	25.85	0.06489	0.07960	0.43	0.00109
OTHER MANUFAC.	7.21	0.01809	0.06430	1.00	0.00252
RAILROAD TRANS	3.57	0.00896	0.02450	11.57	0.02904
MOTOR FREIGHT	5.66	0.01422	0.05116	0.49	0.00122
COMMUNICATIONS	1.31	0.00328	0.02820	1.96	0.00491
UTILITIES	0.28	0.00071	0.06221	5.73	0.01439
WHOLESALE TRADE	12.14	0.03046	0.08382	0.19	0.00049
RETAIL TRADE	16.29	0.04089	0.18185	1.71	0.00430
FIRE	4.99	0.01251	0.24830	5.30	0.01330
PERSONAL SERVICE	0.28	0.00069	0.04702	1.70	0.00427
BUSINESS,REPAIR	4.76	0.01194	0.05097	0.42	0.00105
PROFESS.SERVICE	10.22	0.02566	0.08588	1.39	0.00349
FED.ENTER.	0.06	0.00014	0.00509	0.11	0.00026
STATE LOC ENTER	0.08	0.00019	0.00143	3.82	0.00958
DIRECT IMPORT	0.39	0.00098	0.0	0.0	0.0
TRANSFER IMPORTS	68.43	0.17177	0.0	0.0	0.0
DUMMY 1	2.68	0.00672	0.01970	0.0	0.0
DUMMY 2	0.12	0.00029	0.00440	0.0	0.0
DUMMY 3	0.06	0.00014	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	175.81	0.44128	0.76798	0.0	0.0
CONSUMPTION EXP.				0.0	0.0
CAPITAL FORM				156.09	0.39178
INVENTORY CHANGE				0.0	0.0
EXPORTS				0.0	0.0
FED GOV				44.15	0.11081
STATE AND LOCAL				145.35	0.36484
OUTPUT	398.40				

SECTOR 11 MEAT PROCESS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00642	0.0	0.0
LIVESTOCK	56.87	0.53395	0.79191	0.0	0.0
GRAINS	0.02	0.00015	0.05183	0.0	0.0
OTHER CROPS	7.51	0.07052	0.32305	0.0	0.0
AG SERVICE,FORES	0.0	0.0	0.01330	0.0	0.0
COPPER	0.0	0.0	0.00088	0.0	0.0
COAL	0.04	0.00037	0.00248	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01423	0.0	0.0
OTHER MINING	0.01	0.00013	0.00461	0.0	0.0
CONSTRUCTION	0.13	0.00119	0.01396	0.0	0.0
MEAT PROCESS	12.11	0.11375	1.14418	12.11	0.10927
DAIRY PROCESS	0.06	0.00053	0.00958	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.01695	0.04	0.00040
OTHER FOOD PROC	0.09	0.00086	0.01746	0.50	0.00449
PRINT,PUBLISH	0.20	0.00191	0.00452	0.0	0.0
CHEMICALS	0.22	0.00208	0.02086	0.00	0.00004
LOG AND SAW	0.0	0.0	0.00599	0.0	0.0
MILLWORK,OTHER	0.11	0.00108	0.00726	0.0	0.0
PETR.REFINE	0.12	0.00114	0.03163	0.01	0.00011
PRIMARY METAL	0.01	0.00009	0.00659	0.0	0.0
FABRIC METAL	0.13	0.00124	0.00299	0.0	0.0
STONE,CLAY,GLA	0.02	0.00017	0.00385	0.0	0.0
OTHER MANUFAC.	1.03	0.00969	0.03589	0.48	0.00432
RAILROAD TRANS	0.30	0.00281	0.01597	0.01	0.00012
MOTOR FREIGHT	2.26	0.02127	0.05565	0.13	0.00116
COMMUNICATIONS	0.16	0.00155	0.01780	0.0	0.0
UTILITIES	0.66	0.00618	0.04506	0.0	0.0
WHOLESALE TRADE	1.63	0.01533	0.06541	0.0	0.0
RETAIL TRADE	0.08	0.00078	0.08431	0.0	0.0
FIRE	0.73	0.00683	0.17230	0.0	0.0
PERSONAL SERVICE	0.13	0.00119	0.02419	0.0	0.0
BUSINESS,REPAIR	0.58	0.00545	0.03654	0.0	0.0
PROFESS.SERVICE	0.08	0.00075	0.03408	1.17	0.01055
FED.ENTER.	0.02	0.00018	0.00328	0.0	0.0
STATE LOC ENTER	0.01	0.00011	0.00082	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	7.08	0.06651	0.0	0.0	0.0
DUMMY 1	0.20	0.00186	0.01074	3.87	0.03467
DUMMY 2	0.04	0.00040	0.00316	0.0	0.0
DUMMY 3	0.00	0.00000	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	13.84	0.12997	0.35728	0.0	0.0
CONSUMPTION EXP.				56.32	0.50795
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.99	0.00896
EXPORTS				32.38	0.29205
FED GOV				1.52	0.01375
STATE AND LOCAL				1.33	0.01196
OUTPUT	106.50				

SECTOR 12 DAIRY PROCESS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	10.08	0.22862	0.27413	0.0	0.0
LIVESTOCK	0.01	0.00017	0.02110	0.0	0.0
GRAINS	0.0	0.0	0.10143	0.0	0.0
OTHER CROPS	0.11	0.00258	0.01647	0.0	0.0
AG SERVICE,FORES	0.0	0.0	0.00470	0.0	0.0
COPPER	0.0	0.0	0.00097	0.0	0.0
COAL	0.01	0.00028	0.00232	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01211	0.0	0.0
OTHER MINING	0.0	0.0	0.00223	0.0	0.0
CONSTRUCTION	0.09	0.00194	0.01231	0.0	0.0
MEAT PROCESS	0.0	0.0	0.01695	0.06	0.00123
DAIRY PROCESS	6.89	0.15614	1.19467	6.89	0.15122
GRAIN PROCESS	0.07	0.00163	0.03853	0.26	0.00563
OTHER FOOD PROC	0.32	0.00735	0.02975	0.31	0.00671
PRINT,PUBLISH	0.03	0.00075	0.00331	0.0	0.0
CHEMICALS	0.02	0.00055	0.00859	0.00	0.00001
LOG AND SAW	0.0	0.0	0.00650	0.0	0.0
MILLWORK,OTHER	0.01	0.00029	0.00619	0.0	0.0
PETR.REFINE	0.23	0.00530	0.02625	0.0	0.0
PRIMARY METAL	0.00	0.00005	0.00729	0.0	0.0
FABRIC METAL	0.11	0.00247	0.00472	0.0	0.0
STONE,CLAY,GLA	0.04	0.00085	0.00446	0.0	0.0
OTHER MANUFAC.	0.75	0.01701	0.04551	0.0	0.0
RAILROAD TRANS	0.10	0.00216	0.01167	0.0	0.0
MOTOR FREIGHT	0.14	0.00314	0.03122	0.03	0.00075
COMMUNICATIONS	0.26	0.00583	0.02172	0.0	0.0
UTILITIES	0.38	0.00860	0.04269	0.0	0.0
WHOLESALE TRADE	1.28	0.02892	0.06838	0.0	0.0
RETAIL TRADE	0.10	0.00223	0.07994	0.0	0.0
FIRE	0.57	0.01300	0.15736	0.0	0.0
PERSONAL SERVICE	0.15	0.00340	0.03019	0.0	0.0
BUSINESS,REPAIR	0.66	0.01491	0.04342	0.0	0.0
PROFESS.SERVICE	0.11	0.00249	0.03658	0.68	0.01488
FED.ENTER.	0.02	0.00043	0.00348	0.08	0.00169
STATE LOC ENTER	0.01	0.00018	0.00087	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	11.62	0.26356	0.0	0.0	0.0
DUMMY 1	0.13	0.00288	0.01177	0.69	0.01526
DUMMY 2	0.04	0.00093	0.00368	0.0	0.0
DUMMY 3	0.00	0.00001	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	9.76	0.22137	0.37910	0.0	0.0
CONSUMPTION EXP.				31.58	0.69346
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.14	0.00313
EXPORTS				0.0	0.0
FED GOV				4.22	0.09272
STATE AND LOCAL				0.61	0.01332
OUTPUT	44.10				

SECTOR 13 GRAIN PROCESS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00766	1.74	0.04567
LIVESTOCK	0.0	0.0	0.04489	3.54	0.09295
GRAINS	10.94	0.27618	0.34180	0.0	0.0
OTHER CROPS	0.05	0.00116	0.02848	2.34	0.06160
AG SERVICE,FORES	0.0	0.0	0.00760	0.19	0.00498
COPPER	0.0	0.0	0.00113	0.0	0.0
COAL	0.03	0.00085	0.00349	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01486	0.0	0.0
OTHER MINING	0.03	0.00087	0.00520	0.0	0.0
CONSTRUCTION	0.09	0.00230	0.01655	0.0	0.0
MEAT PROCESS	0.04	0.00111	0.02175	0.0	0.0
DAIRY PROCESS	0.26	0.00647	0.02022	0.07	0.00189
GRAIN PROCESS	5.41	0.13665	1.17041	5.41	0.14223
OTHER FOOD PROC	2.58	0.06504	0.10204	4.09	0.10750
PRINT,PUBLISH	0.01	0.00023	0.00325	0.0	0.0
CHEMICALS	0.24	0.00618	0.02282	0.00	0.00008
LOG AND SAW	0.0	0.0	0.00686	0.0	0.0
MILLWORK,OTHER	0.0	0.0	0.00684	0.0	0.0
PETR.REFINE	0.04	0.00109	0.03238	0.0	0.0
PRIMARY METAL	0.0	0.0	0.00850	0.68	0.01795
FABRIC METAL	0.06	0.00147	0.00393	0.0	0.0
STONE,CLAY,GLA	0.0	0.0	0.00501	0.0	0.0
OTHER MANUFAC.	0.48	0.01222	0.04571	0.58	0.01531
RAILROAD TRANS	0.95	0.02399	0.03978	0.0	0.0
MOTOR FREIGHT	0.93	0.02346	0.05571	0.00	0.00010
COMMUNICATIONS	0.08	0.00195	0.02034	0.0	0.0
UTILITIES	0.40	0.01019	0.05106	0.0	0.0
WHOLESALE TRADE	1.69	0.04266	0.09202	0.0	0.0
RETAIL TRADE	0.05	0.00125	0.09182	0.02	0.00061
FIRE	0.32	0.00803	0.19814	0.0	0.0
PERSONAL SERVICE	0.05	0.00116	0.02961	0.00	0.00010
BUSINESS,REPAIR	0.84	0.02128	0.06211	0.0	0.0
PROFESS.SERVICE	0.04	0.00103	0.03885	0.16	0.00418
FED.ENTER.	0.01	0.00030	0.00407	0.12	0.00309
STATE LOC ENTER	0.00	0.00007	0.00089	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	5.80	0.14653	0.0	0.0	0.0
DUMMY 1	0.13	0.00335	0.01409	0.08	0.00213
DUMMY 2	0.02	0.00056	0.00399	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	8.01	0.20237	0.44145	0.0	0.0
CONSUMPTION EXP.				8.96	0.23542
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.27	0.00722
EXPORTS				9.07	0.23848
FED GOV				0.61	0.01612
STATE AND LOCAL				0.09	0.00240
OUTPUT	39.60				

SECTOR 14 OTHER FOOD PROC

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00525	0.14	0.00208
LIVESTOCK	0.01	0.00017	0.02791	0.40	0.00583
GRAINS	0.34	0.00508	0.03465	0.0	0.0
OTHER CROPS	3.77	0.05589	0.08010	0.15	0.00218
AG SERVICE,FORES	0.04	0.00062	0.00491	0.02	0.00022
COPPER	0.0	0.0	0.00129	0.0	0.0
COAL	0.05	0.00071	0.00331	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01296	0.0	0.0
OTHER MINING	0.00	0.00000	0.00398	0.0	0.0
CONSTRUCTION	0.18	0.00273	0.01240	0.0	0.0
MEAT PROCESS	0.50	0.00737	0.03205	0.09	0.00133
DAIRY PROCESS	0.31	0.00452	0.01935	0.32	0.00470
GRAIN PROCESS	4.09	0.06059	0.08568	2.58	0.03740
OTHER FOOD PROC	6.71	0.09946	1.13714	6.71	0.09749
PRINT,PUBLISH	0.15	0.00228	0.00560	0.0	0.0
CHEMICALS	0.11	0.00167	0.01162	0.07	0.00102
LOG AND SAW	0.00	0.00000	0.00763	0.0	0.0
MILLWORK,OTHER	0.11	0.00166	0.00946	0.00	0.00003
PETR.REFINE	0.28	0.00417	0.02781	0.15	0.00216
PRIMARY METAL	0.04	0.00062	0.00971	0.0	0.0
FABRIC METAL	0.25	0.00375	0.00601	0.0	0.0
STONE,CLAY,GLA	0.84	0.01249	0.01942	0.00	0.00000
OTHER MANUFAC.	0.79	0.01168	0.04592	0.01	0.00018
RAILROAD TRANS	0.81	0.01193	0.02424	0.01	0.00010
MOTOR FREIGHT	1.03	0.01522	0.04349	0.06	0.00084
COMMUNICATIONS	0.34	0.00501	0.02327	0.0	0.0
UTILITIES	0.44	0.00648	0.04725	0.0	0.0
WHOLESALE TRADE	1.57	0.02325	0.06647	0.0	0.0
RETAIL TRADE	0.12	0.00182	0.10069	0.07	0.00096
FIRE	1.17	0.01735	0.18821	0.0	0.0
PERSONAL SERVICE	0.11	0.00170	0.03357	0.0	0.0
BUSINESS,REPAIR	1.35	0.01997	0.05199	0.0	0.0
PROFESS.SERVICE	0.17	0.00254	0.04431	0.67	0.00973
FED.ENTER.	0.03	0.00045	0.00412	0.04	0.00065
STATE LOC ENTER	0.01	0.00012	0.00099	0.0	0.0
DIRECT IMPORT	0.38	0.00570	0.0	0.0	0.0
TRANSFER IMPORTS	12.73	0.18852	0.0	0.0	0.0
DUMMY 1	0.19	0.00285	0.01232	1.26	0.01829
DUMMY 2	0.07	0.00098	0.00415	0.0	0.0
DUMMY 3	0.00	0.00001	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	28.39	0.42066	0.52498	0.0	0.0
CONSUMPTION EXP.				54.18	0.78687
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.40	0.00579
EXPORTS				0.0	0.0
FED GOV				0.75	0.01084
STATE AND LOCAL				0.78	0.01129
OUTPUT	67.50				

SECTOR 15 PRINT,PUBLISH

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00441	0.00	0.00013
LIVESTOCK	0.0	0.0	0.02347	0.03	0.00235
GRAINS	0.0	0.0	0.00578	0.03	0.00227
OTHER CROPS	0.0	0.0	0.01741	0.00	0.00029
AG SERVICE,FORES	0.0	0.0	0.00235	0.00	0.00003
COPPER	0.0	0.0	0.00159	0.01	0.00048
COAL	0.00	0.00001	0.00274	0.00	0.00001
PETROLM NAT. GAS	0.0	0.0	0.01335	0.00	0.00013
OTHER MINING	0.0	0.0	0.00239	0.00	0.00011
CONSTRUCTION	0.11	0.00355	0.01364	0.00	0.00028
MEAT PROCESS	0.0	0.0	0.03243	0.20	0.01694
DAIRY PROCESS	0.0	0.0	0.01791	0.03	0.00276
GRAIN PROCESS	0.0	0.0	0.00826	0.01	0.00076
OTHER FOOD PROC	0.0	0.0	0.02915	0.15	0.01281
PRINT,PUBLISH	0.50	0.01537	1.01975	0.50	0.04127
CHEMICALS	0.15	0.00452	0.01305	0.00	0.00012
LOG AND SAW	0.0	0.0	0.01319	0.01	0.00068
MILLWORK,OTHER	0.0	0.0	0.01072	0.00	0.00018
PETR.REFINE	0.08	0.00234	0.02770	0.01	0.00072
PRIMARY METAL	0.03	0.00106	0.01198	0.01	0.00089
FABRIC METAL	0.01	0.00019	0.00239	0.00	0.00005
STONE,CLAY,GLA	0.0	0.0	0.00425	0.00	0.00040
OTHER MANUFAC.	1.87	0.05775	0.10255	0.01	0.00064
RAILROAD TRANS	0.22	0.00691	0.01728	0.10	0.00845
MOTOR FREIGHT	0.18	0.00552	0.03628	0.04	0.00354
COMMUNICATIONS	0.53	0.01643	0.02955	0.06	0.00522
UTILITIES	0.19	0.00591	0.05452	0.02	0.00135
WHOLESALE TRADE	0.54	0.01662	0.06336	0.06	0.00477
RETAIL TRADE	0.16	0.00492	0.13878	0.27	0.02237
FIRE	1.14	0.03523	0.25142	1.94	0.16101
PERSONAL SERVICE	0.10	0.00317	0.04872	0.39	0.03204
BUSINESS,REPAIR	0.90	0.02776	0.06199	0.01	0.00119
PROFESS.SERVICE	0.34	0.01038	0.06679	0.28	0.02344
FED.ENTER.	0.13	0.00399	0.00879	0.02	0.00184
STATE LOC ENTER	0.00	0.00007	0.00120	0.03	0.00214
DIRECT IMPORT	0.01	0.00022	0.0	0.0	0.0
TRANSFER IMPORTS	6.96	0.21538	0.0	0.0	0.0
DUMMY 1	0.40	0.01240	0.02380	0.00	0.00000
DUMMY 2	0.08	0.00261	0.00652	0.24	0.01993
DUMMY 3	0.00	0.00002	0.0	0.05	0.00382
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	17.69	0.54757	0.72949	0.0	0.0
CONSUMPTION EXP.				4.49	0.37324
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.02	0.00152
EXPORTS				0.0	0.0
FED GOV				0.90	0.07491
STATE AND LOCAL				2.10	0.17492
OUTPUT	32.30				

SECTOR 16 CHEMICALS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00295	0.02	0.00037
LIVESTOCK	0.00	0.00001	0.01586	0.47	0.00965
GRAINS	0.00	0.00009	0.00410	7.07	0.14419
OTHER CROPS	0.07	0.00267	0.01466	5.88	0.12004
AG SERVICE,FORES	0.00	0.00003	0.00163	0.03	0.00062
COPPER	0.0	0.0	0.00526	1.50	0.03052
COAL	0.09	0.00348	0.00765	0.08	0.00161
PETROLM NAT. GAS	0.02	0.00071	0.01590	0.30	0.00621
OTHER MINING	0.64	0.02610	0.03456	0.41	0.00842
CONSTRUCTION	0.16	0.00638	0.01652	1.69	0.03456
MEAT PROCESS	0.00	0.00020	0.02177	0.22	0.00452
DAIRY PROCESS	0.00	0.00003	0.01188	0.02	0.00049
GRAIN PROCESS	0.00	0.00012	0.00588	0.24	0.00500
OTHER FOOD PROC	0.07	0.00286	0.02271	0.11	0.00230
PRINT,PUBLISH	0.00	0.00006	0.00285	0.15	0.00298
CHEMICALS	1.75	0.07105	1.08232	1.75	0.03567
LOG AND SAW	0.0	0.0	0.00655	0.47	0.00954
MILLWORK,OTHER	0.00	0.00005	0.00684	0.67	0.01376
PETR.REFINE	0.19	0.00762	0.02806	1.94	0.03966
PRIMARY METAL	0.46	0.01876	0.03952	2.61	0.05336
FABRIC METAL	0.10	0.00421	0.00616	0.06	0.00116
STONE,CLAY,GLA	0.07	0.00300	0.00724	0.14	0.00289
OTHER MANUFAC.	0.26	0.01066	0.04075	3.43	0.07006
RAILROAD TRANS	0.39	0.01574	0.02586	0.22	0.00456
MOTOR FREIGHT	0.26	0.01054	0.03425	0.04	0.00089
COMMUNICATIONS	0.10	0.00410	0.02036	0.00	0.00005
UTILITIES	0.83	0.03385	0.08214	0.09	0.00181
WHOLESALE TRADE	0.43	0.01766	0.05136	0.01	0.00015
RETAIL TRADE	0.08	0.00310	0.09272	0.14	0.00278
FIRE	0.77	0.03150	0.18570	0.04	0.00082
PERSONAL SERVICE	0.04	0.00168	0.03214	0.45	0.00917
BUSINESS,REPAIR	0.44	0.01775	0.04416	0.18	0.00376
PROFESS.SERVICE	0.11	0.00427	0.04279	1.78	0.03627
FED.ENTER.	0.01	0.00043	0.00392	0.02	0.00032
STATE LOC ENTER	0.01	0.00025	0.00105	0.13	0.00259
DIRECT IMPORT	0.07	0.00269	0.0	0.0	0.0
TRANSFER IMPORTS	6.02	0.24477	0.0	0.0	0.0
DUMMY 1	0.20	0.00819	0.01708	0.00	0.00002
DUMMY 2	0.02	0.00088	0.00384	0.00	0.00001
DUMMY 3	0.08	0.00343	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	10.85	0.44109	0.48081	0.0	0.0
CONSUMPTION EXP.				7.76	0.15845
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.24	0.00492
EXPORTS				0.0	0.0
FED GOV				7.20	0.14686
STATE AND LOCAL				1.42	0.02898
OUTPUT	24.60				

SECTOR 17 LOG AND SAW

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00430	0.0	0.0
LIVESTOCK	0.0	0.0	0.02223	0.0	0.0
GRAINS	0.0	0.0	0.00591	0.0	0.0
OTHER CROPS	0.0	0.0	0.02035	0.0	0.0
AG SERVICE,FORES	8.30	0.03721	0.05925	0.0	0.0
COPPER	0.0	0.0	0.00201	1.02	0.00467
COAL	0.03	0.00015	0.00333	0.12	0.00053
PETROLM NAT. GAS	0.0	0.0	0.02083	0.0	0.0
OTHER MINING	0.0	0.0	0.00311	0.05	0.00023
CONSTRUCTION	0.93	0.00418	0.01760	6.87	0.03160
MEAT PROCESS	0.0	0.0	0.03052	0.0	0.0
DAIRY PROCESS	0.0	0.0	0.01734	0.0	0.0
GRAIN PROCESS	0.0	0.0	0.00912	0.0	0.0
OTHER FOOD PROC	0.0	0.0	0.02842	0.00	0.00000
PRINT,PUBLISH	0.01	0.00004	0.00390	0.0	0.0
CHEMICALS	0.47	0.00210	0.01129	0.0	0.0
LOG AND SAW	76.63	0.34380	1.53663	76.63	0.35224
MILLWORK,OTHER	1.79	0.00802	0.02403	15.60	0.07172
PETR.REFINE	2.75	0.01233	0.04580	0.01	0.00003
PRIMARY METAL	0.59	0.00265	0.01512	0.02	0.00010
FABRIC METAL	0.42	0.00187	0.00495	0.01	0.00007
STONE,CLAY,GLA	0.67	0.00299	0.00972	0.06	0.00028
OTHER MANUFAC.	1.24	0.00556	0.05027	15.25	0.07011
RAILROAD TRANS	3.33	0.01492	0.03369	0.0	0.0
MOTOR FREIGHT	1.61	0.00722	0.03992	0.0	0.0
COMMUNICATIONS	0.53	0.00239	0.02574	0.0	0.0
UTILITIES	2.73	0.01223	0.06976	0.0	0.0
WHOLESALE TRADE	4.58	0.02054	0.07704	0.00	0.00001
RETAIL TRADE	0.56	0.00253	0.13454	0.0	0.0
FIRE	3.25	0.01458	0.23665	0.0	0.0
PERSONAL SERVICE	0.06	0.00026	0.04202	0.0	0.0
BUSINESS,REPAIR	2.47	0.01107	0.04979	0.0	0.0
PROFESS.SERVICE	0.49	0.00220	0.05852	0.0	0.0
FED.ENTER.	0.06	0.00027	0.00491	0.0	0.0
STATE LOC ENTER	0.04	0.00017	0.00137	0.0	0.0
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	16.56	0.07426	0.0	0.0	0.0
DUMMY 1	0.38	0.00170	0.01348	0.0	0.0
DUMMY 2	0.13	0.00059	0.00460	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	92.31	0.41415	0.71797	0.0	0.0
CONSUMPTION EXP.				0.09	0.00040
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				2.51	0.01152
EXPORTS				99.29	0.45640
FED GOV				0.02	0.00011
STATE AND LOCAL				0.0	0.0
OUTPUT	222.90				

SECTOR 18 MILLWORK,OTHER

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00427	0.00	0.00002
LIVESTOCK	0.0	0.0	0.02228	0.04	0.00051
GRAINS	0.0	0.0	0.00561	0.03	0.00038
OTHER CROPS	0.0	0.0	0.01745	0.18	0.00229
AG SERVICE,FORES	0.0	0.0	0.01565	0.06	0.00081
COPPER	0.0	0.0	0.00348	0.0	0.0
COAL	0.02	0.00028	0.00374	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.01631	0.0	0.0
OTHER MINING	0.0	0.0	0.00594	0.0	0.0
CONSTRUCTION	0.37	0.00483	0.01916	14.45	0.18584
MEAT PROCESS	0.0	0.0	0.03077	0.11	0.00148
DAIRY PROCESS	0.0	0.0	0.01729	0.01	0.00016
GRAIN PROCESS	0.0	0.0	0.00817	0.0	0.0
OTHER FOOD PROC	0.00	0.00003	0.02827	0.11	0.00144
PRINT,PUBLISH	0.00	0.00003	0.00294	0.0	0.0
CHEMICALS	0.67	0.00886	0.01941	0.00	0.00001
LOG AND SAW	15.60	0.20503	0.36960	1.79	0.02298
MILLWORK,OTHER	10.03	0.13183	1.16492	10.03	0.12901
PETR.REFINE	0.16	0.00205	0.03353	0.0	0.0
PRIMARY METAL	0.55	0.00719	0.02626	0.10	0.00132
FABRIC METAL	0.47	0.00618	0.00991	0.01	0.00009
STONE,CLAY,GLA	1.25	0.01646	0.02739	0.01	0.00008
OTHER MANUFAC.	0.68	0.00896	0.05351	5.14	0.06611
RAILROAD TRANS	1.88	0.02468	0.04590	0.0	0.0
MOTOR FREIGHT	0.54	0.00715	0.04125	0.01	0.00015
COMMUNICATIONS	0.29	0.00384	0.02787	0.0	0.0
UTILITIES	0.79	0.01037	0.06863	0.0	0.0
WHOLESALE TRADE	2.56	0.03368	0.09196	0.32	0.00407
RETAIL TRADE	0.13	0.00172	0.13321	0.06	0.00078
FIRE	1.45	0.01899	0.24068	0.0	0.0
PERSONAL SERVICE	0.03	0.00044	0.04306	0.05	0.00060
BUSINESS,REPAIR	0.73	0.00958	0.04890	0.0	0.0
PROFESS.SERVICE	0.19	0.00244	0.05893	0.0	0.0
FED.ENTEP.	0.03	0.00038	0.00511	0.0	0.0
STATE LOC ENTER	0.00	0.00000	0.00118	0.0	0.0
DIRECT IMPORT	0.00	0.00002	0.0	0.0	0.0
TRANSFER IMPORTS	7.11	0.09349	0.0	0.0	0.0
DUMMY 1	0.36	0.00467	0.01731	0.02	0.00022
DUMMY 2	0.06	0.00075	0.00491	0.00	0.00001
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	30.14	0.39604	0.71181	0.0	0.0
CONSUMPTION EXP.				14.17	0.18220
CAPITAL FORM				2.09	0.02682
INVENTORY CHANGE				0.99	0.01272
EXPORTS				23.17	0.29796
FED GOV				2.38	0.03060
STATE AND LOCAL				2.44	0.03135
OUTPUT	76.10				

SECTOR 19 PETR.REFINE

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00190	0.08	0.00038
LIVESTOCK	0.0	0.0	0.01013	2.31	0.01066
GRAINS	0.0	0.0	0.00250	8.38	0.03872
OTHER CROPS	0.0	0.0	0.00756	4.47	0.02062
AG SERVICE,FORES	0.0	0.0	0.00104	0.03	0.00012
COPPER	0.0	0.0	0.00187	0.47	0.00219
COAL	0.06	0.00025	0.00255	0.19	0.00085
PETROLM NAT. GAS	83.07	0.35578	0.39890	0.25	0.00114
OTHER MINING	0.01	0.00005	0.00281	1.26	0.00580
CONSTRUCTION	2.62	0.01121	0.02888	7.81	0.03605
MEAT PROCESS	0.01	0.00005	0.01402	0.12	0.00056
DAIRY PROCESS	0.0	0.0	0.00769	0.23	0.00108
GRAIN PROCESS	0.0	0.0	0.00358	0.04	0.00020
OTHER FOOD PROC	0.15	0.00064	0.01330	0.28	0.00130
PRINT,PUBLISH	0.01	0.00004	0.00233	0.08	0.00035
CHEMICALS	1.94	0.00832	0.01441	0.19	0.00087
LOG AND SAW	0.01	0.00003	0.00503	2.75	0.01270
MILLWORK,OTHER	0.0	0.0	0.00518	0.16	0.00072
PETR.REFINE	15.85	0.06787	1.08823	15.85	0.07319
PRIMARY METAL	0.43	0.00185	0.01408	2.60	0.01200
FABRIC METAL	0.16	0.00071	0.00282	0.04	0.00019
STONE,CLAY,GLA	0.03	0.00015	0.00647	0.31	0.00145
OTHER MANUFAC.	0.69	0.00296	0.02756	1.55	0.00714
RAILROAD TRANS	0.38	0.00161	0.00813	4.97	0.02295
MOTOR FREIGHT	10.20	0.04367	0.06684	5.84	0.02699
COMMUNICATIONS	0.20	0.00085	0.01398	0.30	0.00139
UTILITIES	4.26	0.01826	0.05388	1.84	0.00852
WHOLESALE TRADE	1.43	0.00612	0.03152	1.84	0.00851
RETAIL TRADE	0.09	0.00039	0.06184	3.54	0.01633
FIRE	7.96	0.03410	0.21952	1.00	0.00462
PERSONAL SERVICE	0.14	0.00060	0.02094	1.07	0.00494
BUSINESS,REPAIR	3.91	0.01677	0.04188	0.55	0.00253
PROFESS.SERVICE	0.23	0.00099	0.03145	0.56	0.00259
FED.ENTER.	0.07	0.00029	0.00375	0.11	0.00049
STATE LOC ENTER	0.00	0.00001	0.00064	0.29	0.00132
DIRECT IMPORT	0.02	0.00008	0.0	0.0	0.0
TRANSFER IMPORTS	36.28	0.15538	0.0	0.0	0.0
DUMMY 1	0.21	0.00088	0.01050	0.0	0.0
DUMMY 2	0.10	0.00043	0.00358	0.0	0.0
DUMMY 3	0.11	0.00048	0.0	0.11	0.00052
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	62.86	0.26920	0.31173	0.0	0.0
CONSUMPTION EXP.				33.85	0.15632
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				4.79	0.02212
EXPORTS				91.31	0.42170
FED GOV				12.97	0.05990
STATE AND LOCAL				2.17	0.01000
OUTPUT	233.50				

SECTOR 20 PRIMARY METAL

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00385	0.00	0.00000
LIVESTOCK	0.0	0.0	0.02004	0.02	0.00004
GRAINS	0.0	0.0	0.00574	0.01	0.00002
OTHER CROPS	0.0	0.0	0.01493	0.00	0.00000
AG SERVICE,FORES	0.0	0.0	0.00208	0.00	0.00000
COPPER	48.50	0.11031	0.19849	4.66	0.01077
COAL	0.88	0.00201	0.00952	0.27	0.00061
PETROLM NAT. GAS	0.0	0.0	0.02305	0.94	0.00217
OTHER MINING	42.00	0.09551	0.15435	1.48	0.00343
CONSTRUCTION	1.91	0.00434	0.02263	15.88	0.03666
MEAT PROCESS	0.0	0.0	0.02763	0.01	0.00002
DAIRY PROCESS	0.0	0.0	0.01559	0.00	0.00001
GRAIN PROCESS	0.68	0.00155	0.00978	0.0	0.0
OTHER FOOD PROC	0.0	0.0	0.02559	0.04	0.00010
PRINT,PUBLISH	0.01	0.00002	0.00356	0.03	0.00008
CHEMICALS	2.61	0.00595	0.02016	0.46	0.00107
LOG AND SAW	0.02	0.00005	0.01113	0.59	0.00137
MILLWORK,OTHER	0.10	0.00023	0.00936	0.55	0.00126
PETR.REFINE	2.60	0.00591	0.03812	0.43	0.00100
PRIMARY METAL	140.86	0.32036	1.49709	140.86	0.32526
FABRIC METAL	0.07	0.00015	0.00245	4.43	0.01023
STONE,CLAY,GLA	0.69	0.00158	0.00798	0.55	0.00127
OTHER MANUFAC.	1.84	0.00418	0.05007	11.46	0.02646
RAILROAD TRANS	8.40	0.01910	0.04205	3.07	0.00708
MOTOR FREIGHT	2.73	0.00622	0.03723	0.04	0.00008
COMMUNICATIONS	0.62	0.00142	0.02337	0.05	0.00011
UTILITIES	22.32	0.05076	0.15380	0.02	0.00005
WHOLESALE TRADE	5.95	0.01353	0.06510	0.0	0.0
RETAIL TRADE	0.28	0.00065	0.11960	0.0	0.0
FIRE	4.44	0.01010	0.22653	0.0	0.0
PERSONAL SERVICE	0.11	0.00026	0.03873	0.02	0.00004
BUSINESS,REPAIR	2.51	0.00571	0.04360	0.01	0.00003
PROFESS.SERVICE	0.81	0.00183	0.05434	0.0	0.0
FED.ENTER.	0.05	0.00012	0.00465	0.00	0.00000
STATE LOC ENTER	0.06	0.00014	0.00122	0.02	0.00006
DIRECT IMPORT	5.26	0.01197	0.0	0.0	0.0
TRANSFER IMPORTS	19.09	0.04342	0.0	0.0	0.0
DUMMY 1	0.80	0.00181	0.01450	0.0	0.0
DUMMY 2	0.11	0.00026	0.00409	0.00	0.00000
DUMMY 3	6.64	0.01511	0.0	0.43	0.00100
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	116.72	0.26544	0.64200	0.0	0.0
CONSUMPTION EXP.				0.06	0.00014
CAPITAL FORM				0.05	0.00011
INVENTORY CHANGE				12.28	0.02836
EXPORTS				230.74	0.53279
FED GOV				3.59	0.00828
STATE AND LOCAL				0.02	0.00004
OUTPUT	439.70				

SECTOR 21 FABRIC METAL

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00430	0.02	0.00123
LIVESTOCK	0.0	0.0	0.02280	0.09	0.00589
GRAINS	0.0	0.0	0.00583	0.09	0.00567
OTHER CROPS	0.0	0.0	0.01681	0.02	0.00166
AG SERVICE,FORES	0.0	0.0	0.00227	0.01	0.00084
COPPER	0.0	0.0	0.06465	0.05	0.00308
COAL	0.00	0.00009	0.00519	0.05	0.00347
PETROLM NAT. GAS	0.0	0.0	0.01763	0.15	0.01023
OTHER MINING	0.00	0.00018	0.05186	0.07	0.00487
CONSTRUCTION	0.04	0.00256	0.01701	7.52	0.50103
MEAT PROCESS	0.0	0.0	0.03153	0.13	0.00877
DAIRY PROCESS	0.0	0.0	0.01744	0.11	0.00725
GRAIN PROCESS	0.0	0.0	0.00878	0.06	0.00387
OTHER FOOD PROC	0.0	0.0	0.02849	0.25	0.01688
PRINT,PUBLISH	0.00	0.00005	0.00396	0.01	0.00041
CHEMICALS	0.06	0.00410	0.01612	0.10	0.00690
LOG AND SAW	0.01	0.00104	0.01166	0.42	0.02786
MILLWORK,OTHER	0.01	0.00048	0.01035	0.47	0.03133
PETR.REFINE	0.04	0.00295	0.03316	0.16	0.01100
PRIMARY METAL	4.43	0.31879	0.48794	0.07	0.00441
FABRIC METAL	0.15	0.01099	1.01321	0.15	0.01019
STONE,CLAY,GLA	0.09	0.00615	0.01245	0.06	0.00372
OTHER MANUFAC.	0.18	0.01329	0.05816	1.37	0.09126
RAILROAD TRANS	0.11	0.00821	0.02890	0.16	0.01073
MOTOR FREIGHT	0.11	0.00780	0.04220	0.03	0.00181
COMMUNICATIONS	0.09	0.00642	0.02966	0.00	0.00003
UTILITIES	0.12	0.00887	0.09308	0.03	0.00212
WHOLESALE TRADE	0.28	0.01980	0.07246	0.00	0.00016
RETAIL TRADE	0.10	0.00711	0.13844	0.19	0.01271
FIRE	0.29	0.02083	0.24296	0.00	0.00017
PERSONAL SERVICE	0.05	0.00344	0.04773	0.07	0.00485
BUSINESS,REPAIR	0.14	0.01000	0.04738	0.68	0.04531
PROFESS.SERVICE	0.04	0.00274	0.05906	0.01	0.00081
FED.ENTER.	0.01	0.00042	0.00513	0.00	0.00012
STATE LOC ENTER	0.00	0.00002	0.00121	0.01	0.00041
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	1.55	0.11134	0.0	0.0	0.0
DUMMY 1	0.15	0.01101	0.02329	0.00	0.00001
DUMMY 2	0.01	0.00092	0.00486	0.00	0.00000
DUMMY 3	0.03	0.00209	0.0	0.01	0.00047
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	5.81	0.41829	0.71189	0.0	0.0
CONSUMPTION EXP.				0.71	0.04727
CAPITAL FORM				0.23	0.01548
INVENTORY CHANGE				0.03	0.00194
EXPORTS				0.0	0.0
FED GOV				1.35	0.08984
STATE AND LOCAL				0.06	0.00396
OUTPUT	13.90				

SECTOR 22 STONE,CLAY,GLA

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00434	0.01	0.00031
LIVESTOCK	0.0	0.0	0.02271	0.05	0.00123
GRAINS	0.0	0.0	0.00563	0.13	0.00310
OTHER CROPS	0.0	0.0	0.01685	0.28	0.00655
AG SERVICE,FORES	0.0	0.0	0.00231	0.00	0.00002
COPPER	0.0	0.0	0.00481	0.38	0.00892
COAL	0.45	0.01051	0.01847	0.05	0.00127
PETROLM NAT. GAS	0.0	0.0	0.02148	0.61	0.01444
OTHER MINING	3.40	0.08014	0.10082	0.06	0.00147
CONSTRUCTION	0.43	0.01025	0.02603	25.85	0.60807
MEAT PROCESS	0.0	0.0	0.00142	0.02	0.00042
DAIRY PROCESS	0.0	0.0	0.01761	0.04	0.00088
GRAIN PROCESS	0.0	0.0	0.00805	0.0	0.0
OTHER FOOD PROC	0.00	0.00001	0.02871	0.84	0.01982
PRINT,PUBLISH	0.00	0.00011	0.00414	0.0	0.0
CHEMICALS	0.14	0.00334	0.01273	0.07	0.00174
LOG AND SAW	0.06	0.00144	0.01218	0.67	0.01566
MILLWORK,OTHER	0.01	0.00014	0.01034	1.25	0.02946
PETR.REFINE	0.31	0.00741	0.04019	0.03	0.00082
PRIMARY METAL	0.55	0.01295	0.03579	0.69	0.01629
FABRIC METAL	0.06	0.00132	0.00387	0.09	0.00201
STONE,CLAY,GLA	5.32	0.12548	1.14870	5.32	0.12514
OTHER MANUFAC.	0.52	0.01216	0.05798	1.05	0.02463
RAILROAD TRANS	1.12	0.02631	0.04309	0.12	0.00289
MOTOR FREIGHT	1.85	0.04357	0.08441	0.11	0.00250
COMMUNICATIONS	0.21	0.00502	0.02925	0.00	0.00001
UTILITIES	1.77	0.04185	0.11445	0.0	0.0
WHOLESALE TRADE	0.67	0.01576	0.06676	0.14	0.00320
RETAIL TRADE	0.10	0.00233	0.13635	0.56	0.01308
FIRE	1.26	0.02979	0.26021	0.00	0.00008
PERSONAL SERVICE	0.04	0.00105	0.04474	0.18	0.00425
BUSINESS,REPAIR	0.61	0.01440	0.05385	0.65	0.01523
PROFESS.SERVICE	0.14	0.00325	0.06055	0.09	0.00216
FED.ENTER.	0.01	0.00031	0.00527	0.00	0.00004
STATE LOC ENTER	0.00	0.00004	0.00126	0.02	0.00042
DIRECT IMPORT	0.00	0.00000	0.0	0.0	0.0
TRANSFER IMPORTS	3.61	0.08517	0.0	0.0	0.0
DUMMY 1	0.23	0.00544	0.01806	0.00	0.00000
DUMMY 2	0.03	0.00069	0.00487	0.00	0.00000
DUMMY 3	0.00	0.00005	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	19.49	0.45971	0.72421	0.0	0.0
CONSUMPTION EXP.				1.75	0.04124
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.42	0.00991
EXPORTS				0.0	0.0
FED GOV				0.51	0.01192
STATE AND LOCAL				0.46	0.01082
OUTPUT	42.40				

SECTOR 23 OTHER MANUFAC.

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00410	0.02	0.00010
LIVESTOCK	0.17	0.00066	0.02393	0.40	0.00162
GRAINS	0.0	0.0	0.00630	1.66	0.00668
OTHER CROPS	0.07	0.00027	0.01735	0.58	0.00231
AG SERVICE,FORES	0.01	0.00005	0.00600	0.27	0.00107
COPPER	0.0	0.0	0.01071	2.46	0.00986
COAL	0.83	0.00326	0.00720	0.29	0.00118
PETROLM NAT. GAS	0.0	0.0	0.01629	1.18	0.00474
OTHER MINING	0.33	0.00131	0.01152	1.11	0.00444
CONSTRUCTION	1.00	0.00394	0.01546	7.21	0.02891
MEAT PROCESS	0.48	0.00188	0.03186	1.03	0.00414
DAIRY PROCESS	0.0	0.0	0.01655	0.75	0.00301
GRAIN PROCESS	0.58	0.00228	0.01053	0.48	0.00194
OTHER FOOD PROC	0.01	0.00005	0.02725	0.79	0.00316
PRINT,PUBLISH	0.01	0.00003	0.00369	1.87	0.00748
CHEMICALS	3.43	0.01346	0.02326	0.26	0.00105
LOG AND SAW	15.25	0.05982	0.11094	1.24	0.00497
MILLWORK,OTHER	5.14	0.02016	0.03421	0.68	0.00274
PETR.REFINE	1.55	0.00607	0.03307	0.69	0.00277
PRIMARY METAL	11.46	0.04493	0.08074	1.84	0.00737
FABRIC METAL	1.37	0.00537	0.00788	0.18	0.00074
STONE,CLAY,GLA	1.05	0.00411	0.00986	0.52	0.00207
OTHER MANUFAC.	12.66	0.04965	1.09167	12.66	0.05080
RAILROAD TRANS	3.29	0.01288	0.02705	1.55	0.00621
MOTOR FREIGHT	2.40	0.00941	0.04003	1.06	0.00424
COMMUNICATIONS	1.43	0.00563	0.02732	0.50	0.00203
UTILITIES	3.86	0.01512	0.07094	0.35	0.00140
WHOLESALE TRADE	6.64	0.02602	0.07404	0.68	0.00272
RETAIL TRADE	1.36	0.00535	0.12999	2.46	0.00988
FIRE	3.95	0.01549	0.21979	0.86	0.00344
PERSONAL SERVICE	0.35	0.00138	0.04259	1.52	0.00609
BUSINESS,REPAIR	3.28	0.01288	0.04666	2.83	0.01135
PROFESS.SERVICE	0.96	0.00378	0.05652	1.56	0.00627
FED.ENTER.	0.13	0.00050	0.00481	0.04	0.00017
STATE LOC ENTER	0.03	0.00013	0.00122	0.10	0.00041
DIRECT IMPORT	0.34	0.00133	0.0	0.0	0.0
TRANSFER IMPORTS	49.79	0.19526	0.0	0.0	0.0
DUMMY 1	2.11	0.00828	0.01932	0.07	0.00027
DUMMY 2	0.24	0.00094	0.00455	0.60	0.00239
DUMMY 3	4.17	0.01636	0.0	0.08	0.00033
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	115.25	0.45195	0.67758	0.0	0.0
CONSUMPTION EXP.				65.91	0.26446
CAPITAL FORM				9.54	0.03827
INVENTORY CHANGE				0.88	0.00354
EXPORTS				0.0	0.0
FED GOV				114.73	0.46033
STATE AND LOCAL				5.75	0.02306
OUTPUT	255.00				

SECTOR 24 RAILROAD TRANS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00468	0.10	0.00061
LIVESTOCK	0.0	0.0	0.02416	2.31	0.01352
GRAINS	0.0	0.0	0.00605	1.57	0.00919
OTHER CROPS	0.01	0.00005	0.01811	1.08	0.00634
AG SERVICE,FORES	0.02	0.00009	0.00257	0.04	0.00022
COPPER	0.0	0.0	0.00518	0.84	0.00494
COAL	0.00	0.00002	0.00301	0.08	0.00049
PETROLM NAT. GAS	0.0	0.0	0.02549	0.18	0.00107
OTHER MINING	0.00	0.00001	0.00607	0.31	0.00179
CONSTRUCTION	11.57	0.06475	0.07937	3.57	0.02094
MEAT PROCESS	0.01	0.00007	0.03340	0.30	0.00175
DAIRY PROCESS	0.0	0.0	0.01899	0.10	0.00056
GRAIN PROCESS	0.0	0.0	0.00869	0.95	0.00557
OTHER FOOD PROC	0.01	0.00004	0.03098	0.81	0.00472
PRINT,PUBLISH	0.10	0.00057	0.00506	0.22	0.00131
CHEMICALS	0.22	0.00125	0.01003	0.39	0.00227
LOG AND SAW	0.0	0.0	0.01127	3.33	0.01951
MILLWORK,OTHER	0.0	0.0	0.01292	1.88	0.01102
PETR.REFINE	4.97	0.02780	0.05953	0.38	0.00221
PRIMARY METAL	3.07	0.01717	0.03904	8.40	0.04925
FABRIC METAL	0.16	0.00090	0.00409	0.11	0.00067
STONE,CLAY,GLA	0.12	0.00069	0.00986	1.12	0.00654
OTHER MANUFAC.	1.55	0.00866	0.05421	3.29	0.01927
RAILROAD TRANS	9.83	0.05501	1.06885	9.83	0.05765
MOTOR FREIGHT	1.84	0.01032	0.04216	0.89	0.00522
COMMUNICATIONS	1.45	0.00814	0.03291	0.03	0.00017
UTILITIES	1.62	0.00909	0.06413	2.70	0.01584
WHOLESALE TRADE	1.51	0.00846	0.05932	0.09	0.00054
RETAIL TRADE	0.16	0.00091	0.14586	0.19	0.00110
FIRE	10.16	0.05684	0.29700	0.14	0.00082
PERSONAL SERVICE	0.28	0.00156	0.04733	0.13	0.00076
BUSINESS,REPAIR	0.98	0.00549	0.04316	0.25	0.00146
PROFESS.SERVICE	0.55	0.00306	0.06544	0.16	0.00097
FED.ENTER.	0.13	0.00074	0.00598	0.94	0.00550
STATE LOC ENTER	0.02	0.00012	0.00134	0.12	0.00072
DIRECT IMPORT	0.67	0.00378	0.0	0.0	0.0
TRANSFER IMPORTS	11.44	0.06400	0.0	0.0	0.0
DUMMY 1	0.31	0.00173	0.01345	0.91	0.00536
DUMMY 2	0.35	0.00193	0.00628	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.46	0.00270
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	115.57	0.64675	0.78778	0.0	0.0
CONSUMPTION EXP.				7.27	0.04263
CAPITAL FORM				4.26	0.02497
INVENTORY CHANGE				1.44	0.00843
EXPORTS				104.29	0.61165
FED GOV				4.59	0.02694
STATE AND LOCAL				0.48	0.00281
OUTPUT	178.70				

SECTOR 25 MOTOR FREIGHT

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00476	0.48	0.00344
LIVESTOCK	0.0	0.0	0.02518	5.12	0.03686
GRAINS	0.0	0.0	0.00614	2.06	0.01481
OTHER CROPS	0.01	0.00004	0.01851	1.05	0.00758
AG SERVICE,FORES	0.00	0.00002	0.00234	0.08	0.00059
COPPER	0.0	0.0	0.00103	0.37	0.00264
COAL	0.02	0.00015	0.00281	0.05	0.00038
PETROLM NAT. GAS	0.08	0.00059	0.03224	0.18	0.00133
OTHER MINING	0.01	0.00005	0.00194	0.19	0.00138
CONSTRUCTION	0.49	0.00359	0.01532	5.66	0.04080
MEAT PROCESS	0.13	0.00095	0.03489	2.26	0.01631
DAIRY PROCESS	0.03	0.00025	0.01933	0.14	0.00100
GRAIN PROCESS	0.00	0.00003	0.00870	0.93	0.00669
OTHER FOOD PROC	0.06	0.00043	0.03149	1.03	0.00740
PRINT,PUBLISH	0.04	0.00031	0.00465	0.18	0.00128
CHEMICALS	0.04	0.00032	0.00855	0.26	0.00187
LOG AND SAW	0.0	0.0	0.00853	1.61	0.01159
MILLWORK,OTHER	0.01	0.00008	0.01028	0.54	0.00392
PETR.REFINE	5.84	0.04320	0.07743	10.20	0.07345
PRIMARY METAL	0.04	0.00027	0.00775	2.73	0.01969
FABRIC METAL	0.03	0.00020	0.00225	0.11	0.00078
STONE,CLAY,GLA	0.11	0.00078	0.00535	1.85	0.01331
OTHER MANUFAC.	1.06	0.00782	0.05252	2.40	0.01728
RAILROAD TRANS	0.89	0.00658	0.01681	1.84	0.01328
MOTOR FREIGHT	12.98	0.09596	1.13738	12.98	0.09353
COMMUNICATIONS	1.57	0.01158	0.03695	0.15	0.00106
UTILITIES	0.69	0.00512	0.05707	0.94	0.00676
WHOLESALE TRADE	3.68	0.02718	0.07824	2.42	0.01747
RETAIL TRADE	1.87	0.01385	0.15783	0.76	0.00546
FIRE	4.61	0.03406	0.27277	0.77	0.00554
PERSONAL SERVICE	0.16	0.00118	0.04798	0.61	0.00443
BUSINESS,REPAIR	3.16	0.02332	0.06219	0.50	0.00357
PROFESS.SERVICE	0.37	0.00274	0.06335	0.58	0.00418
FED.ENTER.	0.08	0.00062	0.00577	1.50	0.01080
STATE LOC ENTER	0.27	0.00198	0.00337	0.19	0.00140
DIRECT IMPORT	0.58	0.00426	0.0	0.0	0.0
TRANSFER IMPORTS	9.20	0.06800	0.0	0.0	0.0
DUMMY 1	0.79	0.00586	0.01784	9.99	0.07196
DUMMY 2	0.17	0.00124	0.00550	0.0	0.0
DUMMY 3	0.03	0.00025	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	86.21	0.63715	0.78374	0.0	0.0
CONSUMPTION EXP.				26.59	0.19156
CAPITAL FORM				2.30	0.01653
INVENTORY CHANGE				0.48	0.00348
EXPORTS				0.0	0.0
FED GOV				30.79	0.22180
STATE AND LOCAL				5.94	0.04281
OUTPUT	135.30				

SECTOR 26 COMMUNICATIONS

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00345	0.06	0.00068
LIVESTOCK	0.0	0.0	0.01839	1.07	0.01244
GRAINS	0.0	0.0	0.00454	0.76	0.00882
OTHER CROPS	0.0	0.0	0.01353	0.33	0.00381
AG SERVICE,FORES	0.0	0.0	0.00172	0.00	0.00000
COPPER	0.0	0.0	0.00086	0.40	0.00470
COAL	0.00	0.00003	0.00215	0.03	0.00031
PETROLM NAT. GAS	0.0	0.0	0.01104	0.10	0.00114
OTHER MINING	0.0	0.0	0.00161	0.07	0.00083
CONSTRUCTION	1.96	0.01817	0.02621	1.31	0.01522
MEAT PROCESS	0.0	0.0	0.02545	0.16	0.00192
DAIRY PROCESS	0.0	0.0	0.01399	0.26	0.00299
GRAIN PROCESS	0.0	0.0	0.00632	0.08	0.00090
OTHER FOOD PROC	0.0	0.0	0.02278	0.34	0.00394
PRINT,PUBLISH	0.06	0.00058	0.00405	0.53	0.00618
CHEMICALS	0.00	0.00002	0.00589	0.10	0.00117
LOG AND SAW	0.0	0.0	0.00671	0.53	0.00619
MILLWORK,OTHER	0.0	0.0	0.00799	0.29	0.00341
PETR.REFINE	0.30	0.00279	0.02256	0.20	0.00239
PRIMARY METAL	0.05	0.00042	0.00651	0.62	0.00725
FABRIC METAL	0.00	0.00000	0.00175	0.09	0.00104
STONE,CLAY,GLA	0.00	0.00000	0.00427	0.21	0.00248
OTHER MANUFAC.	0.50	0.00469	0.03764	1.43	0.01671
RAILROAD TRANS	0.03	0.00027	0.00743	1.45	0.01694
MOTOR FREIGHT	0.15	0.00137	0.02535	1.57	0.01825
COMMUNICATIONS	1.96	0.01821	1.03610	1.96	0.02285
UTILITIES	0.89	0.00823	0.04734	0.67	0.00785
WHOLESALE TRADE	0.34	0.00320	0.03876	2.86	0.03333
RETAIL TRADE	0.54	0.00502	0.11006	4.05	0.04723
FIRE	2.97	0.02758	0.19836	8.95	0.10422
PERSONAL SERVICE	4.42	0.04108	0.07883	1.26	0.01471
BUSINESS,REPAIR	2.06	0.01912	0.04564	1.12	0.01307
PROFESS.SERVICE	0.36	0.00332	0.04755	1.90	0.02216
FED.ENTER.	0.17	0.00161	0.00539	0.05	0.00054
STATE LOC ENTER	0.02	0.00022	0.00111	0.13	0.00151
DIRECT IMPORT	0.61	0.00565	0.0	0.0	0.0
TRANSFER IMPORTS	5.82	0.05404	0.0	0.0	0.0
DUMMY 1	1.28	0.01184	0.02078	0.0	0.0
DUMMY 2	0.34	0.00313	0.00615	0.0	0.0
DUMMY 3	0.00	0.00000	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	82.86	0.76938	0.56897	0.0	0.0
CONSUMPTION EXP.				26.02	0.30307
CAPITAL FORM				3.99	0.04649
INVENTORY CHANGE				0.0	0.0
EXPORTS				10.78	0.12551
FED GOV				6.54	0.07615
STATE AND LOCAL				3.58	0.04170
OUTPUT	107.70				

SECTOR 27 UTILITIES

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00214	0.09	0.00038
LIVESTOCK	0.0	0.0	0.01132	1.07	0.00464
GRAINS	0.0	0.0	0.00278	1.92	0.00835
OTHER CROPS	0.0	0.0	0.00842	2.94	0.01277
AG SERVICE,FORES	0.0	0.0	0.00117	0.01	0.00005
COPPER	0.0	0.0	0.00114	3.91	0.01701
COAL	6.06	0.02852	0.04309	0.36	0.00158
PETROLM NAT. GAS	12.37	0.05821	0.08726	1.13	0.00490
OTHER MINING	0.0	0.0	0.00199	2.13	0.00925
CONSTRUCTION	5.73	0.02699	0.04287	0.28	0.00124
MEAT PROCESS	0.0	0.0	0.01567	0.66	0.00286
DAIRY PROCESS	0.0	0.0	0.00868	0.38	0.00165
GRAIN PROCESS	0.0	0.0	0.00395	0.40	0.00176
OTHER FOOD PROC	0.0	0.0	0.01414	0.44	0.00190
PRINT,PUBLISH	0.02	0.00008	0.00220	0.19	0.00083
CHEMICALS	0.09	0.00042	0.00498	0.83	0.00362
LOG AND SAW	0.0	0.0	0.00580	2.73	0.01186
MILLWORK,OTHER	0.0	0.0	0.00613	0.79	0.00343
PETR.REFINE	1.84	0.00868	0.02610	4.26	0.01855
PRIMARY METAL	0.02	0.00010	0.00859	22.32	0.09709
FABRIC METAL	0.03	0.00015	0.00204	0.12	0.00054
STONE,CLAY,GLA	0.0	0.0	0.00531	1.77	0.00772
OTHER MANUFAC.	0.35	0.00164	0.02458	3.86	0.01678
RAILROAD TRANS	2.70	0.01271	0.02256	1.62	0.00707
MOTOR FREIGHT	0.94	0.00442	0.02234	0.69	0.00301
COMMUNICATIONS	0.67	0.00317	0.01563	0.89	0.00385
UTILITIES	46.65	0.21955	1.30689	46.65	0.20296
WHOLESALE TRADE	0.79	0.00373	0.02910	1.05	0.00458
RETAIL TRADE	0.36	0.00170	0.06887	10.82	0.04708
FIRE	2.41	0.01132	0.13974	6.14	0.02670
PERSONAL SERVICE	0.33	0.00155	0.02405	3.78	0.01644
BUSINESS,REPAIR	1.00	0.00470	0.02463	0.41	0.00178
PROFESS.SERVICE	0.38	0.00179	0.03151	5.03	0.02189
FED.ENTER.	0.31	0.00144	0.00434	0.31	0.00135
STATE LOC ENTER	0.01	0.00007	0.00065	3.40	0.01480
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	8.39	0.03946	0.0	0.0	0.0
DUMMY 1	0.87	0.00409	0.01145	0.0	0.0
DUMMY 2	0.21	0.00098	0.00336	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	119.97	0.56454	0.35400	0.0	0.0
CONSUMPTION EXP.				46.27	0.20128
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.0	0.0
EXPORTS				34.21	0.14884
FED GOV				4.14	0.01800
STATE AND LOCAL				11.86	0.05161
OUTPUT	212.50				

SECTOR 28 WHOLESALE TRADE

	REQUIPEMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00449	0.25	0.00139
LIVESTOCK	0.0	0.0	0.02454	8.49	0.04706
GRAINS	0.0	0.0	0.00584	6.21	0.03443
OTHER CROPS	0.0	0.0	0.01790	3.47	0.01922
AG SERVICE,FORES	0.22	0.00129	0.00347	0.08	0.00043
COPPER	0.0	0.0	0.00078	1.19	0.00657
COAL	0.0	0.0	0.00246	0.26	0.00144
PETROLM NAT. GAS	0.0	0.0	0.01655	0.48	0.00265
OTHER MINING	0.0	0.0	0.00156	0.70	0.00389
CONSTRUCTION	0.19	0.00112	0.01104	12.14	0.06731
MEAT PROCESS	0.0	0.0	0.03404	1.63	0.00905
DAIRY PROCESS	0.0	0.0	0.01820	1.28	0.00707
GRAIN PROCESS	0.0	0.0	0.00820	1.69	0.00937
OTHER FOOD PROC	0.0	0.0	0.02964	1.57	0.00870
PRINT,PUBLISH	0.06	0.00033	0.00474	0.54	0.00298
CHEMICALS	0.01	0.00004	0.00748	0.43	0.00241
LOG AND SAW	0.00	0.00001	0.00814	4.58	0.02539
MILLWORK,OTHER	0.32	0.00183	0.01134	2.56	0.01422
PETR.REFINE	1.84	0.01065	0.03657	1.43	0.00793
PRIMARY METAL	0.0	0.0	0.00590	5.95	0.03300
FABRIC METAL	0.00	0.00001	0.00190	0.28	0.00153
STONE,CLAY,GLA	0.14	0.00079	0.00478	0.67	0.00371
OTHER MANUFAC.	0.68	0.00391	0.04575	6.64	0.03680
RAILROAD TRANS	0.09	0.00053	0.00978	1.51	0.00839
MOTOR FREIGHT	2.42	0.01402	0.04961	3.68	0.02040
COMMUNICATIONS	2.86	0.01654	0.03978	0.34	0.00191
UTILITIES	1.05	0.00608	0.05407	0.79	0.00439
WHOLESALE TRADE	2.77	0.01600	1.06147	2.77	0.01535
RETAIL TRADE	2.91	0.01683	0.15187	3.02	0.01677
FIRE	9.20	0.05317	0.27342	2.26	0.01253
PERSONAL SERVICE	0.33	0.00193	0.05079	1.43	0.00794
BUSINESS,REPAIR	6.20	0.03585	0.07060	2.51	0.01390
PROFESS.SERVICE	3.31	0.01913	0.07570	2.25	0.01248
FED.ENTER.	0.27	0.00158	0.00662	0.12	0.00068
STATE LOC ENTER	0.09	0.00050	0.00166	0.22	0.00121
DIRECT IMPORT	0.10	0.00059	0.0	0.0	0.0
TRANSFER IMPORTS	9.71	0.05613	0.0	0.0	0.0
DUMMY 1	4.62	0.02669	0.03795	0.0	0.0
DUMMY 2	0.72	0.00417	0.00827	0.0	0.0
DUMMY 3	0.00	0.00001	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	122.87	0.71026	0.72642	0.0	0.0
CONSUMPTION EXP.				69.65	0.38629
CAPITAL FORM				8.51	0.04719
INVENTORY CHANGE				1.19	0.00659
EXPORTS				0.0	0.0
FED GOV				13.41	0.07440
STATE AND LOCAL				4.15	0.02303
OUTPUT	173.00				

SECTOR 29 RETAIL TRADE

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00438	0.28	0.00055
LIVESTOCK	0.0	0.0	0.02265	5.35	0.01044
GRAINS	0.0	0.0	0.00567	4.97	0.00970
OTHER CROPS	0.0	0.0	0.01696	3.23	0.00631
AG SERVICE,FORES	0.03	0.00006	0.00217	0.04	0.00008
COPPER	0.0	0.0	0.00081	0.25	0.00048
COAL	0.0	0.0	0.00305	0.03	0.00006
PETROLM NAT. GAS	0.0	0.0	0.01577	0.43	0.00083
OTHER MINING	0.0	0.0	0.00162	0.30	0.00059
CONSTRUCTION	1.71	0.00334	0.01330	16.29	0.03180
MEAT PROCESS	0.0	0.0	0.03133	0.08	0.00016
DAIRY PROCESS	0.0	0.0	0.01777	0.10	0.00019
GRAIN PROCESS	0.02	0.00005	0.00811	0.05	0.00010
OTHER FOOD PROC	0.07	0.00013	0.02905	0.12	0.00024
PRINT,PUBLISH	0.27	0.00052	0.00469	0.16	0.00031
CHEMICALS	0.14	0.00027	0.00746	0.08	0.00015
LOG AND SAW	0.0	0.0	0.00756	0.56	0.00110
MILLWORK,OTHER	0.06	0.00012	0.00947	0.13	0.00026
PETR.REFINE	3.54	0.00689	0.03147	0.09	0.00018
PRIMARY METAL	0.0	0.0	0.00607	0.28	0.00056
FABRIC METAL	0.19	0.00037	0.00217	0.10	0.00019
STONE,CLAY,GLA	0.56	0.00108	0.00508	0.10	0.00019
OTHER MANUFAC.	2.46	0.00480	0.04529	1.36	0.00266
RAILROAD TRANS	0.19	0.00037	0.00900	0.16	0.00032
MOTOR FREIGHT	0.76	0.00148	0.02808	1.87	0.00366
COMMUNICATIONS	4.05	0.00790	0.03063	0.54	0.00106
UTILITIES	10.82	0.02109	0.07234	0.36	0.00070
WHOLESALE TRADE	3.02	0.00589	0.05026	2.91	0.00568
RETAIL TRADE	2.12	0.00413	1.13704	2.12	0.00414
FIRE	38.72	0.07545	0.29623	2.72	0.00532
PERSONAL SERVICE	2.76	0.00539	0.04875	0.93	0.00181
BUSINESS,REPAIR	12.54	0.02444	0.05846	1.59	0.00311
PROFESS.SERVICE	2.68	0.00523	0.06193	1.69	0.00329
FED.ENTER.	1.24	0.00243	0.00755	0.03	0.00005
STATE LOC ENTER	0.15	0.00030	0.00140	0.05	0.00010
DIRECT IMPORT	0.05	0.00010	0.0	0.0	0.0
TRANSFER IMPORTS	24.47	0.04767	0.0	0.0	0.0
DUMMY 1	2.26	0.00440	0.01494	3.96	0.00772
DUMMY 2	0.46	0.00089	0.00502	0.0	0.0
DUMMY 3	0.05	0.00010	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	397.79	0.77512	0.73396	0.0	0.0
CONSUMPTION EXP.				274.53	0.53586
CAPITAL FORM				15.34	0.02994
INVENTORY CHANGE				0.0	0.0
EXPORTS				171.82	0.33537
FED GOV				-0.26	-0.00050
STATE AND LOCAL				-2.43	-0.00474
OUTPUT	513.20				

SECTOR 30 FIRE

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00201	0.49	0.00081
LIVESTOCK	0.0	0.0	0.01116	10.38	0.01704
GRAINS	0.0	0.0	0.00269	31.01	0.05088
OTHER CROPS	0.01	0.00002	0.00851	10.36	0.01700
AG SERVICE,FORES	0.06	0.00011	0.00115	0.39	0.00064
COPPER	0.0	0.0	0.00054	5.05	0.00829
COAL	0.03	0.00005	0.00182	0.96	0.00158
PETROLM NAT. GAS	0.0	0.0	0.00755	18.80	0.03084
OTHER MINING	0.01	0.00002	0.00107	3.05	0.00501
CONSTRUCTION	5.30	0.00994	0.01726	4.99	0.00818
MEAT PROCESS	0.0	0.0	0.01547	0.73	0.00119
DAIRY PROCESS	0.0	0.0	0.00815	0.57	0.00094
GRAIN PROCESS	0.0	0.0	0.00273	0.32	0.00052
OTHER FOOD PROC	0.0	0.0	0.01317	1.17	0.00192
PRINT,PUBLISH	1.94	0.00363	0.00721	1.14	0.00187
CHEMICALS	0.04	0.00008	0.00383	0.77	0.00127
LOG AND SAW	0.0	0.0	0.00423	3.25	0.00533
MILLWORK,OTHER	0.0	0.0	0.00467	1.45	0.00237
PETR.REFINE	1.00	0.00187	0.01429	7.96	0.01306
PRIMARY METAL	0.0	0.0	0.00404	4.44	0.00729
FABRIC METAL	0.00	0.00000	0.00142	0.29	0.00047
STONE,CLAY,GLA	0.00	0.00001	0.00302	1.26	0.00207
OTHER MANUFAC.	0.86	0.00161	0.02474	3.95	0.00648
RAILROAD TRANS	0.14	0.00026	0.00576	10.16	0.01667
MOTOR FREIGHT	0.77	0.00144	0.01991	4.61	0.00756
COMMUNICATIONS	8.95	0.01678	0.03097	2.97	0.00487
UTILITIES	6.14	0.01151	0.03926	2.41	0.00395
WHOLESALE TRADE	2.26	0.00424	0.02701	9.20	0.01509
RETAIL TRADE	2.72	0.00511	0.06678	38.72	0.06353
FIRE	85.32	0.15998	1.28791	85.32	0.13998
PERSONAL SERVICE	2.61	0.00489	0.02909	11.13	0.01826
BUSINESS,REPAIR	23.93	0.04487	0.06933	4.30	0.00706
PROFESS.SERVICE	10.58	0.01984	0.04913	9.77	0.01602
FED.ENTER.	5.47	0.01025	0.01451	0.61	0.00100
STATE LOC ENTER	0.11	0.00021	0.00078	0.95	0.00156
DIRECT IMPORT	0.36	0.00067	0.0	0.0	0.0
TRANSFER IMPORTS	42.10	0.07895	0.0	0.0	0.0
DUMMY 1	6.64	0.01246	0.02083	0.0	0.0
DUMMY 2	5.27	0.00988	0.01362	0.0	0.0
DUMMY 3	0.01	0.00001	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	320.68	0.60130	0.31569	0.0	0.0
CONSUMPTION EXP.				303.71	0.49830
CAPITAL FORM				1.68	0.00275
INVENTORY CHANGE				-0.00	-0.00001
EXPORTS				0.0	0.0
FED GOV				3.96	0.00650
STATE AND LOCAL				7.21	0.01183
OUTPUT	533.30				

SECTOR 31 PERSONAL SERVICE

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00394	0.13	0.00111
LIVESTOCK	0.03	0.00025	0.02197	0.11	0.00097
GRAINS	0.19	0.00162	0.00693	0.11	0.00093
OTHER CROPS	0.0	0.0	0.01588	0.01	0.00010
AG SERVICE,FORES	0.04	0.00036	0.00239	0.00	0.00000
COPPER	0.0	0.0	0.00104	0.12	0.00101
COAL	0.03	0.00028	0.00382	0.01	0.00007
PETROLM NAT. GAS	0.0	0.0	0.01700	0.03	0.00029
OTHER MINING	0.0	0.0	0.00212	0.02	0.00020
CONSTRUCTION	1.70	0.01436	0.02550	0.28	0.00240
MEAT PROCESS	0.0	0.0	0.02979	0.13	0.00110
DAIRY PROCESS	0.0	0.0	0.01593	0.15	0.00131
GRAIN PROCESS	0.00	0.00003	0.00726	0.05	0.00040
OTHER FOOD PROC	0.0	0.0	0.02596	0.11	0.00100
PRINT,PUBLISH	0.39	0.00325	0.00743	0.10	0.00089
CHEMICALS	0.45	0.00379	0.01108	0.04	0.00036
LOG AND SAW	0.0	0.0	0.00840	0.06	0.00051
MILLWORK,OTHER	0.05	0.00039	0.00948	0.03	0.00029
PETR.REFINE	1.07	0.00902	0.03283	0.14	0.00122
PRIMARY METAL	0.02	0.00013	0.00782	0.11	0.00100
FABRIC METAL	0.07	0.00061	0.00266	0.05	0.00042
STONE,CLAY,GLA	0.18	0.00152	0.00644	0.04	0.00039
OTHER MANUFAC.	1.52	0.01280	0.05085	0.35	0.00307
RAILROAD TRANS	0.13	0.00109	0.01039	0.28	0.00243
MOTOR FREIGHT	0.61	0.00518	0.03687	0.16	0.00139
COMMUNICATIONS	1.26	0.01065	0.03256	4.42	0.03854
UTILITIES	3.78	0.03187	0.08456	0.33	0.00286
WHOLESALE TRADE	1.43	0.01207	0.05351	0.33	0.00290
RETAIL TRADE	0.93	0.00782	0.12732	2.76	0.02407
FIRE	11.13	0.09386	0.30143	2.61	0.02273
PERSONAL SERVICE	4.77	0.04018	1.08481	4.77	0.04151
BUSINESS,REPAIR	2.69	0.02270	0.05729	0.28	0.00242
PROFESS.SERVICE	1.24	0.01043	0.06205	1.05	0.00919
FED.ENTER.	0.32	0.00268	0.00787	0.02	0.00014
STATE LOC ENTER	0.08	0.00064	0.00168	0.02	0.00013
DIRECT IMPORT	0.13	0.00107	0.0	0.0	0.0
TRANSFER IMPORTS	11.96	0.10082	0.0	0.0	0.0
DUMMY 1	2.53	0.02136	0.03311	7.97	0.06939
DUMMY 2	0.24	0.00200	0.00630	0.0	0.0
DUMMY 3	0.00	0.00002	0.0	0.01	0.00007
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	69.63	0.58714	0.63618	0.0	0.0
CONSUMPTION EXP.				74.11	0.64558
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				-0.07	-0.00064
EXPORTS				0.0	0.0
FED GOV				12.77	0.11122
STATE AND LOCAL				0.81	0.00703
OUTPUT	118.60				

SECTOR 32 BUSINESS,REPAIR

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00376	0.06	0.00043
LIVESTOCK	0.0	0.0	0.01994	1.29	0.00991
GRAINS	0.0	0.0	0.00491	7.18	0.05522
OTHER CROPS	0.0	0.0	0.01487	2.36	0.01814
AG SERVICE,FORES	0.0	0.0	0.00197	0.00	0.00002
COPPER	0.0	0.0	0.00157	0.80	0.00614
COAL	0.00	0.00002	0.00243	0.22	0.00167
PETROLM NAT. GAS	0.0	0.0	0.01323	0.59	0.00456
OTHER MINING	0.0	0.0	0.00287	1.15	0.00883
CONSTRUCTION	0.42	0.00488	0.01372	4.76	0.03659
MEAT PROCESS	0.0	0.0	0.02756	0.58	0.00447
DAIRY PROCESS	0.0	0.0	0.01523	0.66	0.00506
GRAIN PROCESS	0.0	0.0	0.00700	0.84	0.00648
OTHER FOOD PROC	0.0	0.0	0.02478	1.35	0.01037
PRINT,PUBLISH	0.01	0.00017	0.00395	0.90	0.00690
CHEMICALS	0.18	0.00216	0.00911	0.44	0.00336
LOG AND SAW	0.0	0.0	0.00965	2.47	0.01899
MILLWORK,OTHER	0.0	0.0	0.00883	0.73	0.00561
PETR.REFINE	0.55	0.00640	0.02958	3.91	0.03012
PRIMARY METAL	0.01	0.00016	0.01181	2.51	0.01931
FABRIC METAL	0.68	0.00795	0.00978	0.14	0.00107
STONE,CLAY,GLA	0.65	0.00757	0.01236	0.61	0.00470
OTHER MANUFAC.	2.83	0.03308	0.07005	3.28	0.02527
RAILROAD TRANS	0.25	0.00291	0.01169	0.98	0.00754
MOTOR FREIGHT	0.50	0.00580	0.03309	3.16	0.02428
COMMUNICATIONS	1.12	0.01313	0.03328	2.06	0.01584
UTILITIES	0.41	0.00479	0.04732	1.00	0.00768
WHOLESALE TRADE	2.51	0.02931	0.06896	6.20	0.04771
RETAIL TRADE	1.59	0.01865	0.13270	12.54	0.09649
FIRE	4.30	0.05035	0.23999	23.93	0.18410
PERSONAL SERVICE	0.26	0.00325	0.04224	2.69	0.02072
BUSINESS,REPAIR	1.07	0.01256	1.04344	1.07	0.00826
PROFESS.SERVICE	0.82	0.00953	0.05820	2.00	0.01535
FED.ENTER.	0.46	0.00525	0.00967	0.30	0.00230
STATE LOC ENTER	0.02	0.00018	0.00116	0.55	0.00424
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	13.03	0.15234	0.0	0.0	0.0
DUMMY 1	0.89	0.01042	0.02064	0.0	0.0
DUMMY 2	0.30	0.00349	0.00709	0.0	0.0
DUMMY 3	0.09	0.00110	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	52.54	0.61445	0.61934	0.0	0.0
CONSUMPTION EXP.				16.96	0.13049
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.0	0.0
EXPORTS				0.0	0.0
FED GOV				14.27	0.10977
STATE AND LOCAL				5.46	0.04204
OUTPUT	85.50				

SECTOR 33 PROFESS.SERVICE

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00595	0.16	0.00086
LIVESTOCK	0.0	0.0	0.03137	1.70	0.00928
GRAINS	0.0	0.0	0.00746	0.41	0.00221
OTHER CROPS	0.24	0.00132	0.02294	0.21	0.00114
AG SERVICE,FORES	0.0	0.0	0.00252	0.00	0.00000
COPPER	0.0	0.0	0.00098	0.63	0.00345
COAL	0.02	0.00013	0.00377	0.06	0.00030
PETROLM NAT. GAS	0.0	0.0	0.01626	0.82	0.00447
OTHER MINING	0.0	0.0	0.00218	0.19	0.00106
CONSTRUCTION	1.39	0.00752	0.01873	10.22	0.05575
MEAT PROCESS	1.17	0.00632	0.04360	0.08	0.00044
DAIRY PROCESS	0.68	0.00366	0.02428	0.11	0.00060
GRAIN PROCESS	0.16	0.00086	0.01049	0.04	0.00022
OTHER FOOD PROC	0.67	0.00362	0.03658	0.17	0.00093
PRINT,PUBLISH	0.28	0.00152	0.00620	0.34	0.00183
CHEMICALS	1.78	0.00961	0.01868	0.11	0.00057
LOG AND SAW	0.0	0.0	0.00881	0.49	0.00267
MILLWORK,OTHER	0.0	0.0	0.01054	0.19	0.00101
PETR.REFINE	0.56	0.00303	0.03058	0.23	0.00126
PRIMARY METAL	0.0	0.0	0.00737	0.81	0.00439
FABRIC METAL	0.01	0.00007	0.00211	0.04	0.00021
STONE,CLAY,GLA	0.09	0.00050	0.00512	0.14	0.00075
OTHER MANUFAC.	1.56	0.00845	0.05362	0.96	0.00525
RAILROAD TRANS	0.16	0.00085	0.01138	0.55	0.00299
MOTOR FREIGHT	0.58	0.00313	0.03804	0.37	0.00202
COMMUNICATIONS	1.90	0.01028	0.03514	0.36	0.00195
UTILITIES	5.03	0.02720	0.08583	0.36	0.00208
WHOLESALE TRADE	2.25	0.01216	0.06191	3.31	0.01805
RETAIL TRADE	1.69	0.00911	0.15679	2.68	0.01463
FIRE	9.77	0.05279	0.29210	10.58	0.05771
PERSONAL SERVICE	1.05	0.00570	0.05705	1.24	0.00675
BUSINESS,REPAIR	2.00	0.01079	0.04794	0.82	0.00445
PROFESS.SERVICE	4.51	0.02437	1.06656	4.51	0.02459
FED.ENTER.	0.38	0.00207	0.00737	0.02	0.00011
STATE LOC ENTER	0.09	0.00050	0.00174	0.13	0.00072
DIRECT IMPORT	0.01	0.00007	0.0	0.0	0.0
TRANSFER IMPORTS	14.11	0.07630	0.0	0.0	0.0
DUMMY 1	3.76	0.02033	0.03228	0.0	0.0
DUMMY 2	0.52	0.00280	0.00710	0.0	0.0
DUMMY 3	0.00	0.00001	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	128.56	0.69491	0.80290	0.0	0.0
CONSUMPTION EXP.				100.06	0.54575
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.0	0.0
EXPORTS				0.0	0.0
FED GOV				22.48	0.12261
STATE AND LOCAL				17.77	0.09692
OUTPUT	185.00				

SECTOR 34 FED.ENTER.

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00881	0.00	0.00007
LIVESTOCK	0.0	0.0	0.03993	0.02	0.00115
GRAINS	0.05	0.00295	0.01592	0.01	0.00106
OTHER CROPS	0.70	0.03913	0.06895	0.00	0.00016
AG SERVICE,FORES	0.0	0.0	0.00488	0.00	0.00005
COPPER	0.0	0.0	0.00153	0.06	0.00460
COAL	0.17	0.00930	0.01496	0.01	0.00036
PETROLM NAT. GAS	0.0	0.0	0.02542	0.02	0.00163
OTHER MINING	0.0	0.0	0.00312	0.02	0.00154
CONSTRUCTION	0.11	0.00585	0.02447	0.06	0.00407
MEAT PROCESS	0.0	0.0	0.05256	0.02	0.00142
DAIRY PROCESS	0.08	0.00427	0.03514	0.02	0.00138
GRAIN PROCESS	0.12	0.00653	0.02224	0.01	0.00087
OTHER FOOD PROC	0.04	0.00249	0.05232	0.03	0.00219
PRINT,PUBLISH	0.02	0.00123	0.00776	0.13	0.00934
CHEMICALS	0.02	0.00086	0.01470	0.01	0.00077
LOG AND SAW	0.0	0.0	0.01235	0.06	0.00434
MILLWORK,OTHER	0.0	0.0	0.01584	0.03	0.00212
PETR.REFINE	0.11	0.00585	0.05352	0.07	0.00485
PRIMARY METAL	0.00	0.00012	0.01154	0.05	0.00381
FABRIC METAL	0.00	0.00010	0.00307	0.01	0.00043
STONE,CLAY,GLA	0.00	0.00010	0.00675	0.01	0.00096
OTHER MANUFAC.	0.04	0.00238	0.07076	0.13	0.00924
RAILROAD TRANS	0.94	0.05208	0.07001	0.13	0.00965
MOTOR FREIGHT	1.50	0.08327	0.13542	0.08	0.00613
COMMUNICATIONS	0.05	0.00259	0.04008	0.17	0.01255
UTILITIES	0.31	0.01718	0.09860	0.31	0.02226
WHOLESALE TRADE	0.12	0.00685	0.08495	0.27	0.01986
RETAIL TRADE	0.03	0.00146	0.22745	1.24	0.09036
FIRE	0.61	0.03370	0.39741	5.47	0.39677
PERSONAL SERVICE	0.02	0.00091	0.07186	0.32	0.02311
BUSINESS,REPAIR	0.30	0.01660	0.07181	0.46	0.03318
PROFESS.SERVICE	0.02	0.00110	0.09511	0.38	0.02774
FED.ENTER.	0.00	0.00014	1.00760	0.00	0.00018
STATE LOC ENTER	0.00	0.00011	0.00213	0.02	0.00128
DIRECT IMPORT	0.80	0.04441	0.0	0.0	0.0
TRANSFER IMPORTS	0.97	0.05387	0.0	0.0	0.0
DUMMY 1	0.07	0.00363	0.01989	0.0	0.0
DUMMY 2	0.01	0.00078	0.00676	0.0	0.0
DUMMY 3	0.0	0.0	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	10.80	0.60018	1.24637	0.0	0.0
CONSUMPTION EXP.				1.84	0.13336
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.0	0.0
EXPORTS				0.0	0.0
FED GOV				1.53	0.11115
STATE AND LOCAL				0.77	0.05600
OUTPUT	18.00				

SECTOR 35 STATE LOC ENTEP

	REQUIREMENTS			SALES	
	TRANSACTIONS	DIRECT	TOTAL	TRANSACTIONS	FRACTION
DAIRY	0.0	0.0	0.00311	0.00	0.00009
LIVESTOCK	0.0	0.0	0.01633	0.01	0.00269
GRAINS	0.0	0.0	0.00403	0.0	0.0
OTHER CROPS	0.00	0.00005	0.01221	0.00	0.00004
AG SERVICE,FORES	0.01	0.00018	0.00209	0.0	0.0
COPPER	0.0	0.0	0.00218	0.0	0.0
COAL	0.21	0.00720	0.01501	0.0	0.0
PETROLM NAT. GAS	0.0	0.0	0.02320	0.0	0.0
OTHER MINING	0.01	0.00039	0.00501	0.0	0.0
CONSTRUCTION	3.82	0.13206	0.14416	0.08	0.01502
MEAT PROCESS	0.0	0.0	0.02260	0.01	0.00235
DAIRY PROCESS	0.0	0.0	0.01261	0.01	0.00157
GRAIN PROCESS	0.0	0.0	0.00574	0.00	0.00052
OTHER FOOD PROC	0.0	0.0	0.02054	0.01	0.00155
PRINT,PUBLISH	0.03	0.00089	0.00392	0.00	0.00043
CHEMICALS	0.13	0.00438	0.01105	0.01	0.00121
LOG AND SAW	0.0	0.0	0.01126	0.04	0.00766
MILLWORK,OTHER	0.0	0.0	0.01239	0.00	0.00001
PETR.REFINE	0.29	0.00992	0.03328	0.00	0.00057
PRIMARY METAL	0.02	0.00086	0.01646	0.06	0.01255
FABRIC METAL	0.01	0.00021	0.00431	0.00	0.00007
STONE,CLAY,GLA	0.02	0.00062	0.01385	0.00	0.00032
OTHER MANUFAC.	0.10	0.00350	0.03645	0.03	0.00640
RAILROAD TRANS	0.12	0.00425	0.01494	0.02	0.00411
MOTOR FREIGHT	0.19	0.00671	0.03178	0.27	0.05297
COMMUNICATIONS	0.13	0.00448	0.02189	0.02	0.00478
UTILITIES	3.40	0.11773	0.18616	0.01	0.00282
WHOLESALE TRADE	0.22	0.00752	0.04541	0.09	0.01713
RETAIL TRADE	0.05	0.00179	0.10211	0.15	0.03051
FIRE	0.95	0.03295	0.19619	0.11	0.02255
PERSONAL SERVICE	0.02	0.00053	0.03233	0.08	0.01494
BUSINESS,REPAIR	0.55	0.01905	0.04665	0.02	0.00305
PROFESS.SERVICE	0.13	0.00459	0.04866	0.09	0.01824
FED.ENTEP.	0.02	0.00061	0.00441	0.00	0.00041
STATE LOC ENTER	0.01	0.00039	1.00124	0.01	0.00222
DIRECT IMPORT	0.0	0.0	0.0	0.0	0.0
TRANSFER IMPORTS	2.58	0.08914	0.0	0.0	0.0
DUMMY 1	0.15	0.00502	0.01464	0.0	0.0
DUMMY 2	0.05	0.00158	0.00469	0.0	0.0
DUMMY 3	0.00	0.00001	0.0	0.0	0.0
GOV INDUSTRY	0.0	0.0	0.0	0.0	0.0
REST OF WORLD	0.0	0.0	0.0	0.0	0.0
HOUSEHOLD INDUST	0.0	0.0	0.0	0.0	0.0
INVENTORY VAL	0.0	0.0	0.0	0.0	0.0
VALUE ADDED	15.70	0.54338	0.51588	0.0	0.0
CONSUMPTION EXP.				1.79	0.35570
CAPITAL FORM				0.0	0.0
INVENTORY CHANGE				0.0	0.0
EXPORTS				0.0	0.0
FED GOV				2.01	0.39816
STATE AND LOCAL				0.10	0.01934
OUTPUT	28.90				

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A P P E N D I X III

Demographic Model

DESCRIPTION OF COHORT SURVIVAL MODEL

The cohort survival model, though not directly linked to the impact model, is a useful tool in the exploration of the effects of changing age structure over time. This type of analysis was utilized to clarify the changes in labor force structure and dependency ratios in the process of building the impact model. In addition, the model can be used to make natural population growth comparisons with forecasts of population levels from the impact model.

The structure of the cohort model as well as the relevant data series are detailed in Appendix III. The feature which distinguishes it from the usual birth and death cohort model is the treatment of three special populations -- college students, military personnel and families associated with Malmstrom Air Force base, and Indians. Specifically, the college student and military related population are removed from the cohort survival process. The rationale is that these two population groups exhibit such high turnover that, though the people change, the characteristics of the population do not. The Indian subpopulation is separated in order to apply Indian specific fertility rates.

Because the differences between Montana and United States figures are minimal, the cohort utilizes United States single year survival rates which trend towards an ultimate rate for the year 2000 provided by the Bureau of Census. Fertility rates are Montana specific. Non-Indian fertility rates converge with national rates in 1990. Indian fertility rates parallel national rates and thus do not converge in the model. The user has the option to choose one of three national fertility rate projections.

The cohort model produces a single year of age breakdown for the fourteen Labor Market Areas. Several print options are available to pre-

sent the data in a more aggregated form as well as more birth and death detail.

LIST OF VARIABLES - DEMOGRAPHIC MODEL

LMA_{ijkt} - Labor Market Area Population i = LMA # 1 - 14
j = Age cohort 0 - 85
k = Sex 1 - male 2 - female
t = Time 0 (1970) - 20 (1990)

N S LMA _ LMA Population with college students removed

N S M LMA - LMA Population with college and military-related population removed

M_{ijk} - Military-related population - Malmstrom Air base i = 1

C_{ijk} - College students i = 2, 3, 4, 8, 13
j = 19-23

SR_{jkt} - Survival rate

IWC_{jk} - Yearly increment in survival rate

FER_{nt} - Non-Indian fertility rate n = 15-45

FT_{rt} - Five year cohort fertility rate for non-Indian r = 1-7

$INDFT_{rt}$ - Five year cohort fertility rate for Indians

$NIPOP_{ijkt}$ - LMA population with Indians, college students and military removed

IND_{ijkt} - Indian population i = 2, 5, 7, 8, 10, 12, 13, 14

Equations

$N\ S\ LMA_{ijkt} = LMA_{ijkt} - C_{ijk}$

$N\ S\ M\ LMA_{ijkt} = N\ S\ LMA_{ijkt} - M_{ijk}$

$N\ I\ POP_{ijkt} = N\ S\ M\ LMA_{ijkt} - IND_{ijkt}$

$N\ I\ POP_{ijk\ t+1} = N\ I\ POP_{i\ j-1\ tk} \times SR_{j-1\ tk}$ j = 1 to 84

Equations, Continued

$$N\ I\ POP_{i\ 85\ k\ t+1} = (N\ I\ POP_{i\ 85\ k\ t} + N\ I\ POP_{i\ 84\ k\ t})\ x\ SR_{84\ k\ t}$$

$$N\ I\ POP_{iok\ t+1} = F_k \sum_{n=15}^{45} FER_{nt}\ x (N\ I\ POP_{in2t} + (N\ I\ POP_{in+1\ 2\ t}/SR_{n\ 2\ t}))\ /2$$

$$F_k = \begin{cases} .51 & k=1 \\ .49 & k=2 \end{cases}$$

$$IND_{ijk\ t+1} = IND_{i\ j-1\ t\ k}\ x\ SR_{j-1\ t\ k} \qquad j = 1 \text{ to } 84$$

$$IND_{i\ 85\ k\ t+1} = (IND_{i\ 85\ k\ t} + IND_{i\ 84\ k\ t})\ x\ SR_{84\ k\ t}$$

$$IND_{c\ o\ k\ t+1} = F_k \sum_{n=15}^{45} INDFER_{nt}\ (IND_{in2t} + (IND_{i\ n+1\ 2\ t}/SRn_{\ 2\ t}))/2$$

$$SR_{i\ t+1\ k} = SR_{jtk} + INC_{jk}$$

$$FER_{j\ t+1} = FER_{jt}\ x\ (FT_{r\ t+1}/\ FT_{rt})$$

$$IND\ FER_{j\ t+1} = IND\ FER_{jt}\ x\ (IND\ FT_{r\ t+1}\ /IND\ FT_{rt})$$

r =	15-19	20-24	25-29	30-34	35-39	40-44	45
j =	1	2	3	4	5	6	7

$$FT_{rt} = (\text{Montana Fertility}_{r\ 1970} - \text{U. S. Fertility}_{r\ 1970})^{\,t/20} + \text{U. S. Fertility}_{rt}$$

$$IND\ FT_{ri} = (\text{Indian Fertility}_{r\ 1970} - \text{U. S. Fertility}_{r\ 1970})^{\,t/20}{}_{r} \qquad r=1 - 7$$

U. S. Fertility

Population of LMA's - Montana 1970

	LMA	Total		Indian *	
		M	F	M	F
1	Great Falls	40965	40839		
2	Billings	42460	44907	614	698
3	Anaconda-Butte	40058	40173		
4	Bozeman	23279	22545		
5	Glasgow	18275	17809	2236	2245
6	Glendive	14577	14417		
7	Hardin-Red Lodge	12443	12306	1993	2114
8	Havre	13466	12978	1648	1620
9	Helena	20034	21011		
10	Kalispell	36186	35782	1496	1403
11	Lewistown	11767	11380		
12	Miles City	14004	14139	977	1030
13	Missoula	41427	41296	713	737
14	Shelby	18032	17790	2671	2759

*For Those LMA's with Reservations

Source: 1970 Census

Montana Fertility Rates Per 1000

Age	White	Indian
15	6.15	24.04
16	23.09	79.85
17	49.42	143.39
18	105.85	220.50
19	199.92	334.55
20	208.88	342.63
21	233.34	322.77
22	230.24	355.26
23	199.67	305.31
24	220.00	297.80
25	181.51	256.01
26	166.82	240.08
27	143.56	184.43
28	135.88	167.50
29	11.63	187.76
30	90.89	137.06
31	73.95	154.00
32	73.18	142.25
33	56.77	104.05
34	49.71	120.00
35	37.92	62.93
36	37.74	60.61
37	29.43	53.17
38	26.83	75.52
39	20.20	49.65
40	15.63	33.73
41	10.01	27.78
42	8.03	19.32
43	6.25	13.89
44	3.37	2.58
45	2.43	3.37

Source: Derived from Census and Birth Information

U.S. Fertility Rates & Projections

Rates Represent Live Births Per 1,000 Women

Series and year (calendar year)	Total fertility rate[1]	Central birth rates[1]							Mean age of child-bearing	Median age of child-bearing
		10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 39 years	40 to 44 years	45 to 49 years	
ESTIMATES										
1925	3,012.9	0.6	62.0	100.2	131.7	112.8	80.9	30.1	4.2	28.31	27.47
1930	2,534.8	0.6	58.1	138.3	128.0	93.7	63.7	23.5	3.1	28.02	27.15
1935	2,180.0	0.6	50.2	124.5	111.3	79.0	51.6	18.4	2.4	27.74	26.84
1940	2,231.8	0.6	52.5	132.7	119.8	78.8	45.4	11.9	1.7	27.30	26.42
1945	2,423.7	0.7	49.7	133.2	131.5	96.9	54.8	16.3	1.5	27.79	27.14
1950	3,031.2	1.0	78.5	192.1	161.5	101.7	52.9	14.4	1.1	26.71	25.83
1955	3,502.3	1.0	88.9	234.1	186.4	114.7	58.5	15.6	1.0	26.56	25.59
1960	3,608.4	1.0	89.3	249.8	195.4	113.1	56.8	15.4	1.0	26.43	25.45
1965	2,884.7	0.8	72.2	192.4	157.4	93.7	46.6	12.9	0.8	26.55	25.62
1970	2,474.1	1.2	69.3	164.6	139.4	71.6	32.0	8.3	0.5	26.03	25.25
1971	2,249.1	1.1	65.9	150.4	129.7	66.1	28.8	7.3	0.5	25.98	25.25
1972	1,997.0	1.2	63.2	129.7	115.1	58.5	24.9	6.4	0.4	25.88	25.21
1973[2]	1,868.6	1.2	60.6	120.0	109.4	54.3	22.3	5.6	0.4	25.80	25.20
PROJECTIONS										
SERIES I										
1974	1,854.0	1.2	61.1	118.3	108.9	53.7	21.8	5.4	0.4	25.77	25.18
1975	1,981.2	1.1	65.4	131.1	117.0	54.7	21.7	5.4	0.4	25.62	25.03
1976	2,088.8	1.1	68.0	140.0	124.6	56.3	21.9	5.4	0.4	25.58	24.99
1977	2,172.3	1.1	69.1	146.9	131.1	58.2	22.3	5.5	0.4	25.58	25.00
1978	2,242.8	1.0	69.3	153.6	136.1	60.2	22.4	5.5	0.4	25.59	25.01
1979	2,301.3	1.0	69.0	159.7	140.3	62.4	22.5	5.5	0.4	25.61	25.02
1980	2,360.2	0.9	68.4	165.1	144.5	64.6	22.6	5.5	0.4	25.64	25.05
1985	2,585.6	0.7	65.2	177.7	171.1	72.2	24.2	5.6	0.4	25.85	25.37
1990	2,692.6	0.5	62.8	182.1	180.2	81.2	25.3	5.9	0.4	26.04	25.57
1995	2,714.1	0.4	60.4	181.3	183.0	81.6	26.7	6.1	0.4	26.12	25.62
2000	2,708.0	0.4	59.4	181.9	181.6	80.1	25.4	6.3	0.4	26.10	25.61
2005	2,701.9	0.4	59.4	185.5	186.4	79.5	23.1	5.5	0.4	26.02	25.58
2010	2,702.5	0.4	59.3	185.5	187.1	79.7	22.9	5.3	0.4	26.01	25.58
2015 and beyond	2,700.0	0.4	59.2	185.6	187.1	79.6	22.6	5.2	0.4	26.00	25.58
SERIES II										
1974	1,818.4	1.2	59.9	116.1	106.8	52.7	21.4	5.3	0.4	25.77	25.19
1975	1,823.4	1.1	58.5	120.1	107.4	51.4	20.6	5.2	0.3	25.71	25.10
1976	1,847.4	1.0	58.0	123.2	110.1	51.4	20.4	5.1	0.3	25.70	25.10
1977	1,886.6	1.0	58.0	126.1	114.0	52.3	20.5	5.1	0.4	25.73	25.13
1978	1,928.8	0.9	57.9	129.2	117.9	53.6	20.6	5.1	0.4	25.75	25.17
1979	1,971.5	0.9	57.8	132.1	121.7	55.3	20.8	5.2	0.4	25.78	25.21
1980	2,009.7	0.8	57.4	135.3	125.0	57.0	20.9	5.2	0.4	25.81	25.25
1985	2,081.2	0.6	53.0	140.9	134.3	61.0	21.1	5.0	0.3	25.96	25.43
1990	2,110.2	0.4	49.8	142.7	139.5	62.9	21.3	5.0	0.3	26.07	25.56
1995	2,113.2	0.3	47.6	143.8	142.0	63.0	20.7	4.9	0.3	26.10	25.60
2000	2,107.0	0.3	46.4	144.2	143.6	62.2	19.6	4.7	0.3	26.07	25.59
2005	2,105.3	0.3	46.3	144.6	145.2	61.9	18.2	4.3	0.3	26.02	25.58
2010	2,101.7	0.3	46.2	144.5	145.7	62.1	17.8	4.1	0.3	26.01	25.58
2015 and beyond	2,100.0	0.3	46.1	144.4	145.5	61.9	17.6	4.0	0.3	26.00	25.58
SERIES III										
1974	1,797.0	1.2	59.1	114.7	105.7	52.1	21.1	5.2	0.4	25.78	25.19
1975	1,695.9	1.0	54.3	110.0	99.5	49.1	20.0	5.0	0.4	25.80	25.18
1976	1,631.2	0.9	51.1	106.8	96.1	47.1	19.1	4.8	0.3	25.82	25.19
1977	1,635.2	0.9	50.2	107.6	97.4	47.0	18.9	4.8	0.3	25.83	25.21
1978	1,673.8	0.8	50.2	110.6	100.8	48.0	19.1	4.8	0.3	25.85	25.24
1979	1,705.7	0.8	50.1	113.1	103.9	48.9	19.2	4.8	0.4	25.86	25.27
1980	1,719.4	0.7	49.5	114.3	105.6	49.5	19.1	4.8	0.3	25.88	25.30
1985	1,712.9	0.5	44.3	115.3	109.2	50.4	18.1	4.5	0.3	25.99	25.44
1990	1,707.8	0.4	40.9	115.8	111.9	50.6	17.5	4.2	0.3	26.06	25.53
1995	1,706.3	0.2	38.8	116.5	114.1	50.1	16.6	4.0	0.3	26.08	25.57
2000	1,703.2	0.2	37.6	116.8	116.0	50.2	15.7	3.7	0.3	26.06	25.56
2005	1,701.5	0.2	37.6	117.1	117.5	50.0	14.7	3.5	0.2	26.02	25.57
2010	1,704.6	0.2	37.4	117.0	118.0	50.3	14.5	3.3	0.2	26.01	25.58
2015 and beyond	1,700.0	0.2	37.3	116.8	117.8	50.1	14.2	3.3	0.2	26.00	25.58

[1]These total fertility rates differ slightly from those published by the National Center for Health Statistics. They are the sum of central birth rates which are based on births adjusted for underregistration and females adjusted for estimated net census undercount.

[2]Rates for 1973 are based on provisional data on total births and 1970 to 1972 trends by age and race.

Sources: Bureau of Census Current Population Reports
Series D-25 #601, October 1975

Table B-4. ESTIMATES OF ONE-YEAR SURVIVAL RATES BY RACE FOR 1972 AND PROJECTIONS OF ULTIMATE ONE-YEAR SURVIVAL RATES, BY SEX AND SINGLE YEAR OF AGE

These current rates are inconsistent with population and vital statistics to reflect estimated net census under count.
See text for discussion of methodology and assumptions

Initial age	Terminal age	1972						Ultimate	
		Total		Non-Negro		Negro		Male	Female
		Male	Female	Male	Female	Male	Female		
Births	Under 1	.968178	.986060	.969230	.987865	.972990	.987[illegible]	.988410	.990940
Under 1	1	.991128	.992870	.992178	.993[illegible]	.993[illegible]	.994[illegible]	.994127	.995529
1	2	.996850	.997000	.997011	.997151	.997117	.997[illegible]	.997337	.998213
2	3	.997265	.997405	.997316	.997457	.997447	.997[illegible]	.997592	.998416
3	4	.997417	.997528	.997478	.997570	.997[illegible]	.997[illegible]	.997647	.998416
4	5	.997481	.997589	.997516	.997621	.997[illegible]	.997[illegible]	.997706	.998013
5	6	.997593	.997683	.997618	.997713	.997[illegible]	.997[illegible]	.997802	.998076
6	7	.997696	.997836	.997725	.997861	.997[illegible]	.997[illegible]	.997907	.998263
7	8	.997838	.997960	.997853	.997982	.997[illegible]	.997[illegible]	.998080	.998398
8	9	.998045	.997988	.997[illegible]	.997907	.997[illegible]	.998[illegible]	.998035	.998732
9	10	.997962	.997717	.997673	.997733	.997[illegible]	.997[illegible]	.997808	.998759
10	11	.997708	.997737	.997721	.997752	.997[illegible]	.997[illegible]	.997743	.998779
11	12	.997[illegible]	.997716	.997701	.997752	.997[illegible]	.997[illegible]	.997721	.998741
12	13	.997[illegible]	.997742	.997[illegible]	.997721	.997[illegible]	.997[illegible]	.997701	.998753
13	14	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
14	15	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
15	16	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
16	17	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
17	18	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
18	19	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
19	20	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
20	21	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
21	22	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
22	23	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
23	24	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
24	25	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
25	26	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
26	27	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
27	28	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
28	29	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
29	30	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
30	31	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
31	32	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
32	33	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
33	34	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
34	35	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
35	36	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
36	37	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
37	38	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
38	39	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
39	40	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
40	41	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
41	42	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
42	43	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
43	44	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
44	45	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
45	46	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
46	47	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
47	48	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
48	49	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
49	50	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
50	51	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
51	52	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
52	53	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
53	54	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
54	55	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
55	56	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
56	57	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
57	58	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
58	59	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
59	60	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
60	61	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
61	62	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
62	63	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
63	64	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
64	65	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
65	66	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
66	67	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
67	68	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
68	69	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
69	70	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
70	71	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
71	72	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
72	73	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
73	74	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
74	75	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
75	76	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
76	77	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
77	78	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
78	79	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
79	80	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
80	81	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
81	82	.996[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
82	83	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
83	84	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]
84 and over	85 and over	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.997[illegible]	.998[illegible]

Source: Bureau of Census Current Population Reports
Series P-25, #601 October 1975

SUPPLEMENTAL GRANT PROJECTS

An updated list of eligible supplemental grant projects is currently being compiled and will be submitted to the Old West Regional Commission as an appendix to this report during the fall of 1976.

A project review committee composed of representatives of the Governor's Office and state agencies involved in economic development will review and prioritize the projects before they are forwarded to the Commission for funding consideration.

Printed by
COLOR WORLD OF MONTANA, INC.
201 E. Mendenhall, Bozeman, MT 59715